Practical Hints to Fruit-Growers.

No. II.—Marketing Grapes.

THE grape should be cut when perfectly dry, and always handled by the stem. They should be laid in picking-*boxes*, and not in baskets; the size of these boxes can be varied to suit the convenience of the pickers. The boxes are preferred on account of their being more firm than baskets.

It is seldom the fruit is cool enough to pack immediately, consequently it should be placed in a dry, cool room for at least twenty-four hours. This will cause the stem to wilt, and make it more pliable for packing.

In the Southern States I would recommend a longer time for the cooling process, as there is a greater degree of risk in transportation from those States during the extreme heat that frequently prevails when they send their fruit to market.

There is no fruit grown on which the owners lose so much money as they do in sending the grape to market in objectionable packages. A few years since, all the grapes were sent to our market in boxes containing from twenty-five to fifty pounds. Then it was the custom for retailers to weigh all they sold, and by this process their loss was considerable in handling. To avoid this loss they demanded a smaller package, which could be sold without breaking bulk, and the ten-pound box was introduced, which suited them for a time; but instead of being satisfied with this box, they again demanded a smaller one, and the five-pound box was invented, which gave still better satisfaction than the ten-pound.

The dealers finding the box system was better as it decreased in size, wished to do away, *in toto*, with the weighing system, and the result is that still smaller boxes are made use of. The most popular of them all is the three-pound size; and the old plan of weighing is almost done away with among the best class of dealers.

The form of the principal packages made use of now is the round paper, or wood covered with paper, and the square wood box. In the round boxes there is but little difference. Except in one pattern, the bottom is left out to enable the packer to present a better top surface to the fruit than when packed from the top. This arrangement is also connected with the wooden box alluded to above. The additional advantage of this plan is, that if a few berries are mashed in closing the bottom it does not hurt the sale of the fruit. In making choice of a box, you should learn which kind your dealer prefers; as one dealer sometimes has a demand for one kind, and another dealer for another, each can handle

that kind to a better advantage than the other. These boxes are packed in skeleton cases, containing from thirty to ninety pounds.

The Concord being one of our earliest, is, also, one of our most tender varieties, and it requires the greatest care in handling in order to get it to market in prime condition. As all growers are aware, the skin is thin and tender, and liable to burst on the least pressure when it is thoroughly ripe. This difficulty can be avoided in a measure by picking before this period arrives, although not before the skin is well blackened. I would recommend this plan only to those that are compelled to send them a long distance to market. If your fruit should begin to burst before you can pick it, be careful to take out the damaged berries when packing, and in order to do this every packer should be provided with a pair of sharp-pointed scissors to cut them off without injuring any of the other berries.

The Delaware is open to some of the above objections, with this difference. The skin of the Concord being broken, a dry mould frequently forms upon the pulp, and the damage extends no farther than the berry affected; while the Delaware is of such a juicy character, that, on breaking the skin, the pulp frequently runs out through the box, which often sours in one night, and spoils the sale of the fruit. I would recommend the three-pound box for this variety.

The Isabella being a hardy grape, will resist much rough handling, and a five-pound box is small enough for them; but they should not be sent to market unless thoroughly ripe. Any redness of the skin indicates an unripeness that injures the sale.

The Diana, Catawba, and other well-known varieties can be packed in the same boxes as the Isabella. The Diana should be more closely examined before packing than any other variety, and all the imperfect berries inside of the cluster removed, or they will decay in a short time and spoil the perfect fruit. Grapes that have *no* bloom are considered only of an inferior quality, and the perfection of the bloom always enhances their value. Boxes should *always* be packed full. The dropping of the grape from the stem is a serious objection; it loses all value, except for peddlers and wine-makers.

As a general principle, all black grapes are classed at about the same rate of prices, while the other varieties have each their distinctive value, the white fruit ruling the highest.

NEW-YORK, 1868. NOW AND THEN.

Beautify your Homes.

BY THE EDITOR.

THERE is not a place in the entire country but can, to some extent, be improved in ornamental appearance and effect with but little trouble and at little expense.

Farmers especially are apt to think that, because they are poor and their means limited, they are unable to carry out any ideas of improvement; or, if they are well off, they are always waiting for some time to come when money will be more easily spared, or they can have more leisure for the purpose.

In fact, there is a belief, widely prevalent among plain country folk, that pretty houses and attractive surroundings are entirely unnecessary, too costly, do them no good, do not belong to the farmer's humble lot, but to the village resident, or those who come from the city, who alone are supposed to possess the proper taste and necessary means.

This is all wrong. If country life was only made more pleasant by the addition of beautiful and tasteful improvements around every farmer's door, we believe that farm life would present better inducements than it now does for contentment to the young, who are so anxious to leave home and trust themselves on an unknown mercantile career.

Is the old farm-house homely, gambrel-roofed, and brown, and you think you can not afford to build a new one?

Never mind; if there is only cheerfulness within the old one, it is better than discontented spirits in a new one. Paint up that old brown house; you can afford that at

least. Let the colors be soft or lively, as you like; shingle it over new, and make the roof clean and dry; dress up your blinds in beautiful green; twine around your porch the honeysuckle or the climbing rose; and wind up the sides and corners of your house the ivy, or some evergreen climber.

Take carefully from your woods or fields the evergreen spruce or fir, and plant a dozen or more in front of your door. Plant along the road-side a few maples and elms in alternate rows; let your wife or daughters get some flower-seeds and bulbs, and plant those also in front of your parlor window; paint up your fence, and make it neat.

Then wait for the gentle warmth of the sun, and watch the appearing of the leaves of the trees, the budding of the flowers, the coming forth of the bloom of the honeysuckles and roses, and notice how quickly the creepers climb up the sides of the house.

Wait, too, until some beautiful day in summer, when one of your old farm friends and his family comes to visit you. Listen to their exclamations of pleasure at the simple and wonderful transformation; look at the pleased faces and bright smiles of your wife and children, and you will feel you have at last got something worth praising—something to compel respect from your neighbors.

Watch the travelers by your house, as they partially stop and look over your little yard, and with silent praise testify to its beauty.

When some Sunday afternoon comes in early summer, and you return from church and drive up to your house, as you look over the fence, the flowers, shrubbery, and lovely deep green of the silk-soft, wavy grass will impress you with sentiments of beauty you can not force away. How charming it is, and yet how little it cost!

Watch the influence of these little things upon your children, how rapidly their taste and manners improve; how much more cheerful they are in disposition; how quickly they gain a superior standing among their school-fellows; how popular their home becomes as a visiting-place by their friends.

See how gradually books and papers find their way into your house—how well they are read and remembered; see how insensibly your own tastes improve; how much better you farm it than formerly; how well you are able to get along. The farm produces more, and, notwithstanding the apparent increase of expenses, yet you are able to meet them, and find, at last, that it does pay to adorn your homes.

The influence will not rest here. This is but the commencement of a series of salutary lessons which must be taken. Every one of them will produce a greater and still increasing good; the exertion will be less and less hard, and instead of being, as it once was, an object of dread, the beautifying of your place will become a *labor of love.*

There is a class of persons who come out from a city to locate in its suburbs with ill-defined notions of how to appreciate and enjoy country life to best advantage.

By the time their house is finished their capital is entirely exhausted, and further improvements seem to be impossible. For months, or even years, the debris of the builder hangs around the house in unsightly heaps; or, if even wheeled away, no effort is made to lay out the ground neatly, and form neat lawns.

In how many towns and villages have we seen scores of such houses, repulsive in their very plainness, and always carrying in them an unfinished look!

By and by the place changes hands, and the new proprietor begins to improve his lots or acres as soon as he can, by setting out choice trees, shrubs, and flowers. He thinks nothing can make home so attractive to his family, or so delightful to himself, as the cultivation of a few of nature's fairest gifts.

He twines the honeysuckle around his porch, and in summer sits on the piazza, and watches the humming-bird and bee fly in and out, gathering their fragrant store.

He decks his lawn with beautiful tulips, peonies, roses, pansies, dahlias, and other flowers, and laughs to see how his neighbors stop before his gate and gaze with admiring eyes on the delicious sight.

What a charm his cottage immediately possesses, and how great the contrast with other plain and barren yards around!

Year after year this tasteful man adds here and there many a choice root and plant, and never fails or flags in his love for such beauties until the little field becomes almost a paradise in itself.

We can not expect great results from every suburban resident. Tastes differ, and people differ in their powers of application and perseverance; but every human being is capable of exerting an effort and accomplishing some such result, be it of greater or less comparison.

Plant out handsome variegated shrubs, the Japan quince, snowball, deutzia, and others, that, when flowers are lacking, there will be something to give pleasure.

Plant out evergreens, that, when both flowers and shrubs are gone, there will still be left an element of life and beauty, and your grounds not seem altogether bare and desolate.

Every owner of a country place, from a single lot to a villa site, or a large farm, should possess, according to his ability, either few or many of these charming adornments and indispensable accompaniments of a well-kept country home.

The possession of them will enable him to spend his days in peace, and enjoy with quiet contentment the luxury of such a rural life, while the influence of these simple yet beautiful charms will be productive of an everlasting good in both mind and heart.

"More than building showy mansions,
More than dress and fine array,
More than domes and lofty steeples,
More than station, power, and sway,
Make your home both neat and tasteful,
Bright and pleasant, always fair,
Where each heart shall rest contented,
Grateful for each beauty there.

"Seek to make your home most lovely,
Let it be a smiling spot
Where, in sweet contentment resting,
Care and sorrow are forgot.
Where the flowers and trees are waving,
Birds will sing their sweetest song;
Where the purest thoughts will linger,
Confidence and love belong.

"There each heart will rest contented,
Seldom wishing far to roam;
Or, if roaming, still will ever
Cherish happy thoughts of home.
Such a home makes man the better,
Sure and lasting the control;
Home with pure and bright surroundings
Leaves its impress on the soul!"

A Model Country Residence.

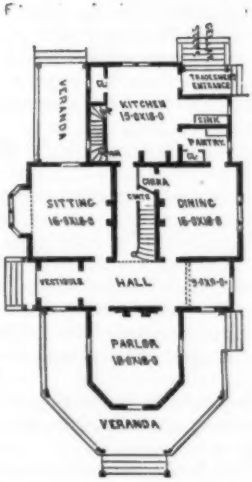
BY DUGGIN & CROSSMAN, ARCHITECTS, 191 BROADWAY, NEW-YORK.

THE house, illustrated in the accompanying plans, was erected in 1860, at New-Brighton, Staten Island. It is situated on high ground, and commands extended views over New-Jersey, New-York, and Long Island.

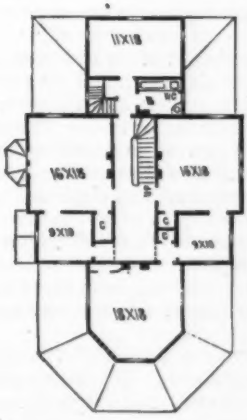
It is planned on an economical scale, and, at the same time, is liberal in its arrangement. All the rooms are of moderate yet comfortable size, and the general character of the design is such as to commend it as a residence suitable for any family of taste.

THE ARRANGEMENT.—Passing through a vestibule, the hall is entered, from which doors open into each room; by this means a free circulation of air through the various apartments is secured. It will be observed that the hall is symmetrically arranged, the doors to the several apartments being placed directly opposite each other; this gives

DESIGN FOR A MODEL COUNTRY RESIDENCE.



FIRST FLOOR.



SECOND FLOOR.

the hall a very handsome appearance, and places the different rooms in easy communication with each other. That portion marked off at the end of the hall, if deemed best, might be partitioned up, and a door placed in the centre. This would form a comfortable little library or study; or, if preferred, be left as at present, with simply an arch thrown across the hall. To this arch could be suspended curtains, which, if hung in festoons and gathered up gracefully, would tend much to enhance the appearance of the hall. With the arch and curtains this space could still be appropriated as a library or snuggery, to be inclosed by the drapery when in use. A French casement, or sash door, is provided from the vestibule, and from the end of the hall, for easy access to the veranda, thus avoiding the necessity of passing through the parlor for that purpose.

The principal stairs are placed in a side hall; under these stairs a closet is provided for hats and coats. This side hall also answers the purpose as passage to the kitchen.

The kitchen is of ample dimensions, and is fitted up with every convenience, such as range, boiler, dresser, closet, etc. A sink-room is also provided in connection with the kitchen, in which is placed the pump to supply the tank in the third story. The communication to the dining-room from the kitchen is through a pantry, the doors of which are so arranged as to prevent, as far as possible, the fumes of the kitchen gaining access to the dining-room.

The dining-room is a very pleasant apartment, with a convenient space on either side for a sideboard. A china closet is also provided to this room.

The wash-room is located in the basement, underneath the kitchen. The space beneath the pantry, sink-room, and kitchen porch is walled up, and paved and connected with the outside by the cellar steps. The remainder of the basement is devoted to the furnace, coal, and store-rooms. Should more room be required on the first floor, the kitchen could be removed to the basement, taking the place of the wash-room, and a dumb waiter provided in the pantry. This would allow of the present kitchen being used as a dining-room, and the present dining-room for any purpose required.

With regard to the arrangement of the second story, little need be said, as the plan is self-explanatory. The small rooms are made to communicate with the chambers, so that they can be used as dressing-rooms if required. The front small room might be increased four feet in length by taking away the closets; in that case a closet to the chamber should be provided alongside of the fireplace.

Three chambers are provided in the third story, with closets attached. That portion of the third story over the parlor is left unfinished, and makes a convenient place for storing away trunks and other articles. There is also a small room in the tower, but the stairs to the upper story of the tower interfere somewhat with the available space.

The height of the basement is seven feet, the first story eleven feet, the second story nine feet six inches, and the third story eight feet in the highest part.

Construction and Finish.—The foundation or basement walls are built of stone and twenty inches thick. The outer surface where coming against the earth is plastered up with cement, so as to keep out the dampness. All the walls above the basement are constructed of wood. The frame is filled in with brick, and covered on the outside with narrow rebated clapboarding, the window cases being cut out of plank one inch and a half thick. The roof is covered with ornamental cedar shingles. All the workmanship and materials are of the best description. The rooms on the first and second stories have appropriate moulded cornices and centre-pieces. The spaces between the roof rafters are filled in with an additional coat of lathing and plastering. This is but a trifling additional expense, and keeps the attic rooms warmer in winter and cooler in summer.

From the back of the kitchen-range a hot air flue is provided, connecting with the bath-room over. This answers the double purpose of heating the bath-room, and at the same time prevents the water in the pipes from freezing.

From the upper story of the tower a very extended view is obtained of the surrounding country. To make this room even more interesting, the sash is glazed with stained glass of different shades and grades of color. Looking through these various tints, it has a singularly interesting effect. It also has the recommendation of subduing the glare of light that is generally an objection to these tower rooms.

Culture of the Cranberry.

BY F. TROWBRIDGE, MILFORD, CT.

AS the raising of cranberries is receiving more attention from those who are interested in their culture, a few facts in regard to their growth, culture, etc., will be of service to all who wish to raise them for their own use or market. Success in raising cranberries is owing entirely to thorough preparation of the ground and subsequent culture.

THE SOIL BEST ADAPTED is low, moist land, suitably drained, so that the water will be twelve or eighteen inches under the surface.

As the plant draws its nourishment from air and water, it is not of consequence how poor the soil may be. Light soil, or that destitute of organic matter, is better for their growth; hence, if the ground is covered with much bog or peat, it would be of great service to remove the top of the ground to a compost heap, and cover the remaining soil with sand to the depth of three to five inches.

The sand tends to prevent the growth of weeds, wild grass, etc.; is easier cultivated, and keeps the ground loose around the plants.

If planted directly on muck or rich soil, they are apt to make too rank a growth, sometimes ten or twelve feet in length, and cover the ground over with a mat three or four inches thick; and as the fruit grows on the ends of the shoots, the rank growth throws out but few buds; but if sanded over, the shoots are of short growth, the plants become rooted, and throw out stronger fruit-buds.

They will grow on moderately damp soil, that can be plowed or cultivated, or in garden soil not too dry, and produce a fair crop on such land; but will not do well on dry sand or clay. Where the soil is partially dry, they can sometimes be covered with tan, sawdust, or any thing that retains moisture, spread on the top of the ground; they also grow well on the borders of streams and ditches.

OVERFLOWING is desirable, and I might say it is almost indispensable to do this late in the fall. It is non-essential as to the depth of water over them. It can be let off again from the 1st to the 10th of May. If it can be done, it is desirable to have the flow so regulated that it can be let off or on in the course of a few hours; so that, in case of drought or attack of the worm, it can be let on for a short time; it should be used also in the fall while gathering the fruit, for a frost may seriously injure it for market. In prospect of any danger, the water can be let on until it is past; or if it is desirable to keep the fruit over the winter, the berries can be left on the vines until spring, when they will be as fresh as if gathered in the fall.

THE VARIETIES.—There are three varieties—the cherry, bugle, and bell—generally cultivated. The large round *cherry* is a late, not prolific bearer, and does best on quite damp soil. The *bugle* is quite handsome, not as late as the cherry, and not as prolific as the *bell*, which is the most generally planted. It is early and prolific, and is the kind usually sold as Cape Cod cranberries. It is also the kind sold by some dealers as upland; but there are none strictly so.

PLANTING AND CULTURE.—When the ground is well prepared, lay it out as you would for planting cabbage, strawberry, or other plants, using a pointed stick or dibble to make a hole four or five inches deep, in which you place the plant, press the dirt around it, and the root and stem will soon start to grow. The remainder of the vines may be layered in the ground, leaving the shoots or stems above. The vines covered will take root and much sooner cover the ground. Another plan, adopted by many, is to take the vines up without roots, often six or eight feet in length, which they cut up and sow in drills, or lay the vine down and cover with dirt. In this way it will take from twelve to fourteen barrels of vines, costing $4 or $5 per barrel, to the acre. The reason for this course is, that where vines are grown on rich muck or soil, they do not make roots, but all mat together, and the above is the only way they can be planted out; but where the ground is sanded, they grow more upright short vines with roots. These are the best to plant out, are packed close for transportation, and the only kind that can be forwarded by mail.

They are tied in bundles of 100 each. Ten thousand can be packed in a barrel, sufficient to plant an acre, two feet apart each way; but if the vine above ground is layered as proposed above, the two feet between each plant will be filled at once. Ten thousand plants will cost only $25, and much less for transportation. If planted this distance apart, they can be cultivated with a horse hoe or cultivator to keep out the grass and weeds. After two or three years' cultivation they will take care of themselves. If wanted in small patches or in gardens, they can be set a foot apart and will cover the ground much sooner. They can be planted out at almost any season of the year—when the ground is not frozen, in the fall from September, at the North, until the ground freezes, or in the spring until July. At the South and West, if possible, they should be planted from October to January or February. If received too late for planting, the roots can be covered with dirt in a box and placed in a cellar, until they can be planted out. Where there is no overflow, I am satisfied that they can be planted out in early spring until July, as well as fall.

Every family can have their garden patch, and in dryish soil, grass, meadow muck, tan, or sawdust around the plant will be beneficial to retain moisture. They are highly ornamental in pots, the fruit hanging on the plant until the blossom appears for the next crop. They often bear a few berries the first year, and increase every year, coming into perfect bearing from five to eight years, averaging 100 to 150 bushels per acre—sometimes yielding as high as 300 bushels.

A point worthy of notice is, that cultivated fruit is less likely to be affected by drought than wild fruit.

Can we raise Oranges in the Middle States?

Something new to Horticulturists.

BY THE EDITOR.

AS we write these words the intelligence comes to us that, through a large portion of the South, and even in Northern Florida, the orange trees have been killed by frost, and the prospect of thousands of oranges blighted in the bud.

In our researches for facts of the curiosities of fruit culture, climatology, and botany, we have met with something which leads us to believe that we shall yet see the orange tree growing and thriving as far north as Philadelphia or New-York, standing the severest winters, exposed to the open air, without any more injury than a peach or even an apple-tree.

There are existing in foreign countries thousands of useful plants, waiting only for the hands of some enterprising naturalist to gather and transplant them into a congenial home in this country, and yet it is not done.

We give now a chance for any one to distinguish himself by introducing into this country one or more new varieties of oranges of a more hardy nature than any now known to America, and making experiments for acclimatization.

In the province of Durango and Chihuahua, Mexico, lat. 28°, there grows an orange tree on the elevated table lands, the pulp of whose fruit is described by Siemann, as being "exceedingly full, rich, and savory, the only species indigenous to America."

The climate of the table-lands of these regions is the same as that which characterizes all the elevated plains of Mexico—dry, and not subject to extremes of heat and cold.

Toward the end of February the night frosts cease; spring commences, poplars and willows begin to grow green, peaches and apricots put forth their blossoms, but the temperature alone, though fast increasing during April and May, is not sufficient to awaken nature altogether. The fields remain dry until—toward the latter part of May, or beginning of June—the vivifying rains set in; in a few days every herb, every shrub and tree has started into life, and the vegetation develops itself with great rapidity; the season answering to the North European spring has commenced. Early in September the rains

cease; in October the night frosts (which last until February) recommence; besides this there are few indications of winter; snow seldom falls, and never remains long on the ground. The great aridity of the climate is best illustrated by the fact that though the rainy season only terminates early in September, there is very little water to be met with in any part of the plains during the winter months. The periodical streams seem to disappear at the moment the rains themselves cease, and the perpetual springs, streams, and small rivers are so few in number that the traveler has very often to search for hours ere he is able to meet with water. In such a climate as this grows this orange tree. The city of Durango, situated 6000 feet above the ocean, is described as filled with courtyards and planted with these orange and pomegranate trees.

Is it not reasonable to suppose, from the similarity of seasons and partial similarity of climate to certain portions of our Middle or Western States, the seeds or plants from those orange trees can be brought to this country and stand every reasonable probability of a successful acclimatization? Who will do it?

Robert Wight also tells us, in his India Botany, that far off in Asia, in the country of the Circars, "there is a red, loose-skinned orange, which arrives at so great a perfection in those Alpine tracts, that it has been called the *hill orange*. This, to my taste, when in perfection, is by far the most delicious of the whole tribe; but judging from the nature of the climate in which it is said to arrive at its greatest perfection, (a cold, very humid atmosphere,) it seems next to impossible to rear it successfully on the plains. It must be recollected that to attain perfection it requires a considerable range of the thermometer; the heat in their favorite valley—being high during the day, but low during the night—supplies this desideratum."

From these two climates, producing two beautiful varieties of oranges, it would seem possible to obtain a variety that would be as easy to grow in our American latitudes, and become eventually as common in our gardens or on our lawns, as are now the quince, the dwarf-apple, etc. Here is a new field for horticulturists to explore.

Scaffold Training for Grape Vines.

THAT a perfect method of training grape vines has not yet been universally adopted will be conceded, and may not be for years. In our search for that best method, why should we follow the same old paths, when those who have gone before only report failure? It seems the true way must soon be found, for all the false ones have been threaded to their ends, and new ways have been tried until there are no more new ways.

"Where is the true way, then, if all the old ones are false, and there are no new ones?"

Not so fast. I did not say all the old ways are false, but that all the false ways had been proved false, and there were no more new ones to try.

"Let's hear, then, your perfect method at once."

Go with me into the forests, and when we study nature awhile, and determine from her examples the best mode, it will be *our* plan, *not mine*, and you will not feel yourself called upon to oppose it.

"But do you mean to assert that we must abandon our vines as they are in the forest?"

Calmly. Nature always does exactly right; when surrounded by the most favorable circumstances, the most favorable results follow; the vines in the forests do the very best they can *under the circumstances*. Art, culture, can change these circumstances, but the results are *natural* results after all; and art, not nature, is to blame if such results are not satisfactory. "Admitted." Well, now to our lessons. Look at that gigantic wild vine. For several feet it lies along the ground, makes one loose coil around the immense trunk that supports it, then hangs aloof and does not touch again until where the great limbs leave the body. It looks like a great cable, and you wonder how it ever got up there. "You do not advise all that naked wood, and the immense height of the fruit from *terra firma*,

do you? And could we get at the fruit, through great risk of life and limb, 'twould only be sour grapes at last." Patience! these are but the adverse circumstances I spoke of. The superior flavor of the fruit of your sickly hot-house pets is the natural result of the careful culture their parents for many generations have received. But I would call your attention particularly to the beautiful display of fruit on that branch over our heads. The limbs and twigs of this branch spread out like a fan, so that its leaves enjoy equal advantages of sunlight and heat. Taking advantage of this support, the vine has covered every part of it, spreading its leaves to the sun in the same way, while all the clusters hang down below the network of twigs and the sheltering leaves. This is the lesson we should learn. If nature had intended that the fruit should be exposed to the sun, then the clusters would have been on the top of the bough instead of sheltering so securely beneath its canopy. Now, what old mode of training does this most resemble? Of course it is nothing like stake training, nor any of the modifications of trellis training, but the good old-fashioned arbor or scaffold training. "But you surely do not claim scaffold training as a perfect mode?" No, or I should contradict myself, for I said there is as yet no perfect mode known; but I do believe it is the right path in which to go on looking for the perfect way. And if viticulturists, bringing all the knowledge they possess, will "fight it out on this line," it will not "take all summer" to reach the end they have so long sought. I believe in following nature much more closely, especially in propagation. Plant seed of healthy, vigorous varieties for stocks, and graft the proved varieties on them, just as you would fruit-trees, using a *whole seedling*. I believe the cheap and rapid propagation, by cuttings and layers, is a great cause of disease in the vine. Our best pomologists assert that rot in apples is caused by grafting on pieces of roots, and I believe that pear-blight is caused by grafting on rooted cuttings, suckers, and pieces of roots of quince and pear. (See article on "Causes of Blight in Pear-Trees," in June number of *Southern Cultivator*, Athens, Ga.) Another cause of disease in the vine is the barbarous system of pruning, almost universal. Though the fruit is borne on growth of present season from that of last, that is no reason why you should prune away all old wood, keeping the vine the size of a two-year old, though it be ten years old. Peaches are borne only on growth of last year. Why do you not set your orchard 4×4 feet, and adopt an "alternate *sprout*" system, reducing the old wood to a mere stump? If the "sprouts" grow so fast, and so much out of shape, as to be in danger from winds, stake them, or train to a wire trellis, and you have peach culture reduced to the same scientific absurdity that the grape culture of to-day presents.

A correspondent in the August number of the *Horticulturist* says, "I am getting a great quantity of foliage," etc.; he wants the sanction of art before he does something that nature tells him is not right. As a vine grows older, it insists in stronger terms on being allowed to run; and had I that "great quantity of foliage" I should "let it run," and see to it that it had plenty of room, and something to run on. On a perpendicular trellis, with close planting and severe pruning, the vine is in its most unnatural position, except when flat on the ground. Again, the natural tendency of a young vine is to run up perpendicularly, and of a bearing vine, to spread out horizontally, which natural desire is gratified by the support of the horizontal scaffold.

To recapitulate. To give a vine the greatest natural advantages and insure the most satisfactory results:

First. Graft it upon an entire, healthy, seedling stock.

Second. Give it plenty of room to spread its roots in a good soil, and its branches in the sunlight.

Third. Train upon a horizontal support or scaffold, allowing the young growth to run freely during the growing season. Early in the fall, prune canes to from three to six eyes according to position on scaffold, etc.

Undetermined. The best mode of cultivation; and whether, in vineyard culture, it is advisable to cover the entire surface with scaffolds and vines, or to plant in strips, with intervening strips cultivated in low-hoed crops. On ground level, or nearly so, I think the latter plan advisable, while on steep-terraced hill-sides, the soil will get plenty of sunlight and warmth by the former method.

MERIDIAN, Miss. F. W. V.

Peach-Trees.—Height of Branches.

BY DR. E. S. HULL, ALTON, ILL.

SHALL we grow our peach-trees with branches starting from the ground, or shall we prune? and to what height? These and similar questions are now often asked. We think it would be superfluous to give any instructions in growing fruit-trees to low heads, since, for the past sixteen or eighteen years, all our journals, both horticultural and agricultural, have vied with each other in descriptions how best to accomplish, as they supposed, so desirable a result. Indeed, so much has been written on this point, that we have gone from trunks six to eight feet high down to those of as many inches. These low-headed orchards, on coming into bearing, have disappointed, or must soon disappoint, their owners. The conditions of growing peaches at the West are now so changed from what they were but a few years since, that trees with low heads are, in the main, no longer a success. They increase the labor of cultivation manifold. The low branches cut off the under-circulation, inducing disease in the foliage, and rot in the fruit. They invite insect enemies, and make it difficult, if not impracticable, to arrest their ravages. In short, low heads are a failure at the West, and the sooner we can induce people to start the heads of their trees at a proper height, the sooner will it be possible to successfully destroy insects, to ward off diseases, to insure color to the fruit, and make it practicable to cultivate quite up to the trees by means of horse-power.

In planting a peach orchard, we select trees of one season's growth from the bud. These, if well grown, will be not less than five or six feet high, and will have many side, or lateral shoots, branching out horizontally from the main or vertical stem. In addition to the side branches there will also be found numerous buds, extending from the ground to the top of the tree. Cut away all the branches and buds to the height of twelve or fifteen inches; next cut away all buds below the point at which it is intended the tree shall form its head, except six or eight buds, which are to be left at regular intervals, and on different sides of the stem. These last-mentioned buds will push into as many branches as there are buds. It will be necessary to keep these side branches pinched back to ten or twelve inches during the summer, to prevent them from running off with the growth, and robbing those buds and branches selected for the future head of the tree. Some time after the fall of the leaves, and before growth commences in the spring, reduce the side branches to one bud each, and when the branches from these buds shall extend to ten or twelve inches, pinch them as directed in the first year. The treatment will be the same the third year as we have directed for the second; except, at the end of the season, cut away all the side branches except those intended to form the head of the tree. The object of the side branches, of which mention has been made, was to strengthen the stem or trunk of the tree; without them the trees would have become top-heavy, and bend the trunks. Trees grown as we have described will have straight and tapering stems, which will be of sufficient strength in their fourth year to stand erect.

The Flower-Garden and Lawn.

IN all that relates to a flower-garden or lawn, order and neatness are indispensable. At this season, special attention should be paid to these qualities. In making your arrangements for your pleasure-grounds, allow abundance of room for the lawn. Of all arrangements for ornamental effect, a clean, smooth lawn possesses a beauty almost unequaled by even the most brilliant flowers and shrubs which are interspersed here and there. The lawn should have a dressing of good rich soil, or compost, before the middle of March, and grass-seed should be sown during the first week of April, just before a rain. Sow the seeds over the ground, rake in with an iron rake, and roll immediately afterward when the ground is dry, for if wet, the soil and seeds will adhere to the roller. From a quarter to half an inch is not too thick to cover the lawn with compost.

Winter Gardens.

BY ROBERT MORRIS COPELAND.

WHOEVER passes through Chestnut Street, in Philadelphia, may see, between Eleventh and Twelfth Streets, a small winter garden which is kept supplied with plants in blossom, or with gay-colored foliage, all the season. Generally it exhibits a large number of rare and unusually fine orchids, and as they are a very difficult class of plants to maintain in perfection, but few are familiar with the beauty they offer in form and color.

But with a rare liberality and generosity, the owner of this little garden permits all of us to share with him in the pleasure these plants can give.

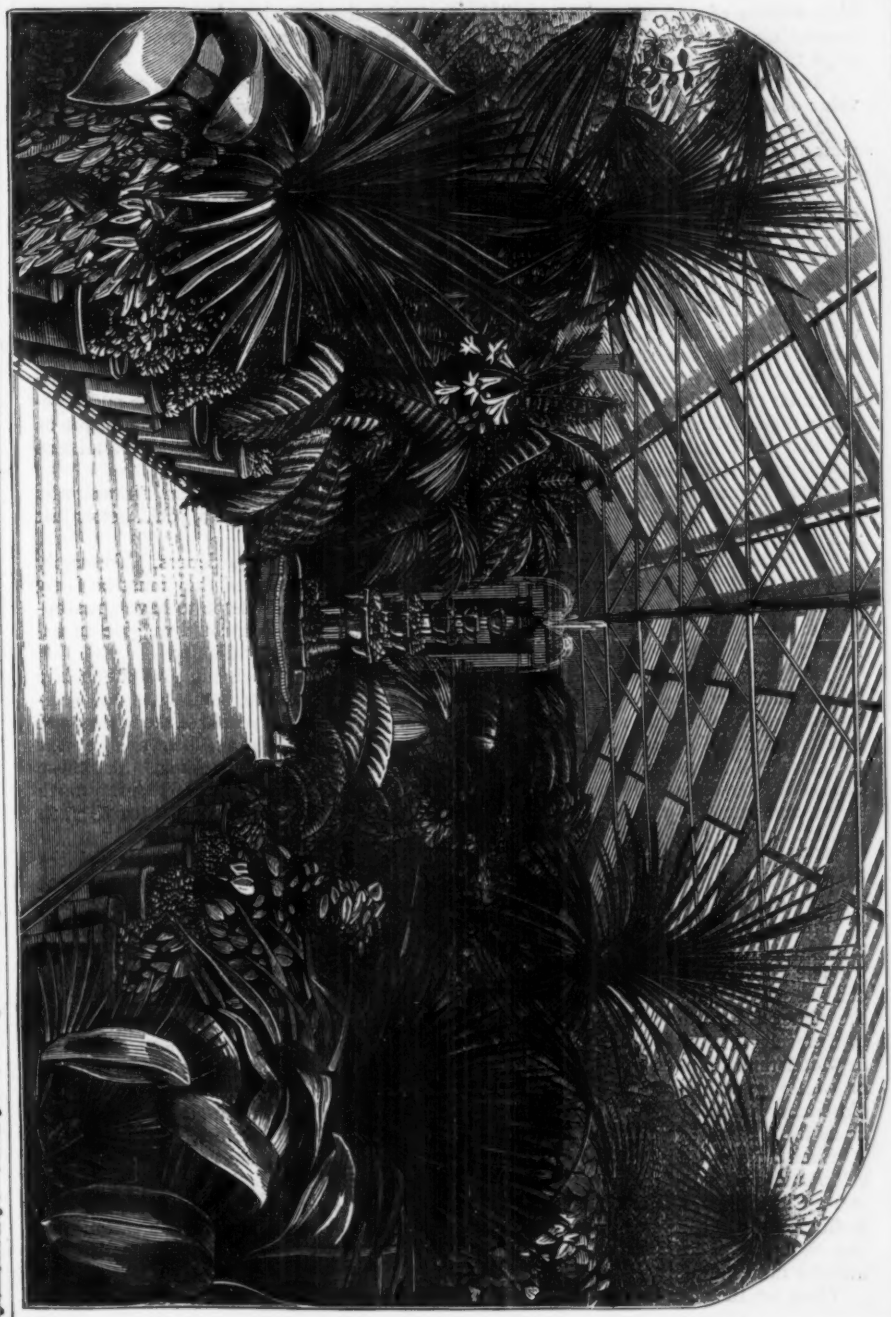
Whenever we pass the windows that give admission to the beauty securely covered from cold and storm, we find ourselves one of a mixed company; old and young, rich and poor, turn aside, even if only for a moment, to look and gather a pleasant memory as a companion during the day.

Thousands of persons, each year, look at these rich colors and strange forms, and wonder what are the names of these plants they admire, and what countries are blessed with them. Probably a few, who have had a little experience, count the cost, and congratulate themselves that they are spared the drain on their purses which attends hot-house culture of plants, or sigh for the time when their income will warrant them in doing likewise. No public or private bounty expended in Philadelphia, during the year, gives more pleasure, and does more real good to the minds of the people, than that which comes from that unpretending little conservatory.

It is useless to try and analyze the reasons, whether it is the contrast between winter's cold and frost, and the color, fragrance, and foliage of the protected plants, or whether it is the actual influence of the plants themselves—equally potent in winter or summer—certain it is that every one is strangely charmed and affected by a visit to a well-stocked and well-managed hot-house in winter. In summer the warm weather, the foliage on the trees, the green grass and singing birds give the mind an amount of relaxation and diversion which makes a collection of plants rather a trouble than a pleasure to their owners; but when frost once locks up the ground, or even on its first coming nips our summer flowers, the trouble ceases to be considered, and we begin to recall the old favorites, rename the varieties, and to anticipate the tender pleasures their contrasts of form, color, and fragrance are to give us before the crocus and bluebird once more invite us out into the fields. Flowers seem to have some mysterious connection with the mind; the love of them, or at least an active interest in them, manifests itself in every one at some time in his life.

It is not surprising that children, however poor or ignorant, should be attracted by them; but it is not children only who confess their power; men of middle age, who are hardly able to struggle against the waters of adversity or support the weight of business, will find time to pluck a flower for child or grandchild, maid or wife, or even for their own button-hole on some gala day. A pot of geranium or violets, in the cobwebbed and

INTERIOR OF WINTER CONSERVATORY.



dirty window of a tenement house, will be noticed and admired, and perhaps praised by hundreds, who rush past only too glad to escape the confusion, dirt, or squalor which reign triumphant on all sides.

To argue the universality of this love is as useless as to argue the importance and value of fresh air to the lungs. We know that it is so, and few will venture to deny it.

Many who cultivate flowers are interested because others buy them, and they devote their time to them with no more particular regard for the flowers themselves than if they were bales of goods, or boots and shoes.

But this is true only of the flowers they produce themselves; let the most mercenary florist go out into the country for a holiday stroll, or visit the gardens or houses of a neighbor, and he will show, by his attention to the flowers he sees, his comments on their color, form, habits, that he really understands and responds to their power as individuals, independently of any possible selling qualities they may have.

If this is true—and it is—why are there so few who offer to the public the enjoyment which follows a visit to a well-kept winter garden? No one can make and maintain a green-house, hot-house, or conservatory, without a liberal outlay and constant expense, and when made, the enjoyment is not unalloyed because of the trouble which will come with their possession. To be successful, we must have a good gardener, a rare and high-priced man. When we get him, he may be so pretentious or dogmatic that he makes us feel that the houses are his, not ours, and that he kindly or condescendingly permits us to enjoy the beauty he has created.

The better man he is, and the better flowers he makes, the more he can tyrannize by the ever-present threat, "Well, sir, just as you please; but if that be so, you'd better just suit yourself with another man."

To have satisfactory houses in winter we want plenty of good gardeners. To supply these we must supply means of educating them, and when educated they must be fairly paid. Then, with a large number to select from, an amateur may hope to have a reasonable enjoyment of his houses and a fair return for his outlay. But could we give an unlimited supply of gardeners we should touch but one part of the difficulty.

No one wants gardeners but the rich, and but few who are rich can give the public access to their treasures. The public is an unruly animal, and sometimes not over-honest, and might either steal or destroy, in a few moments, the result of the labors and care of years. To grow plants well, they must have plenty of light and heat and be near the glass, and all parts of the building be easily accessible to the gardener. But these necessities require small and very close houses, where there is but little room to move about and see the plants. Obviously the public can not have free entrance to such houses, and yet even these are costly to make or maintain.

Houses for the public must come under the head of conservatories, and be places for exhibiting plants rather than growing them, and can be erected and warmed only at a heavy cost, which it would be unreasonable to expect private persons to sustain.

Plainly, such buildings should be built out of the public funds, and should be maintained by the public just as much as parks and commons in summer.

The park and common, however beautiful, offer their attractions when most persons can get some fresh air and acquaintance with rural beauty out of the city limits; but in the winter the public must either forego all such pleasures and benefits, or supply them to themselves, and yet, as we have admitted, the influence of plants and flowers is greater in winter than summer, and better worth spending money for. So public conservatories or winter gardens, into which may be gathered, for winter enjoyment, all the freshly blossoming plants of any latitude, would be quite as useful and health-giving to the public as the fresh air of the parks and commons to their bodies in summer.

Such buildings need not be made to grow rare exotics, which are very difficult to develop and protect. The public, who do not know the difference between a heliotrope and a China aster, will not care more for a plant because it is a palm, or a fern, or an orchid, or an India-rubber plant from the tropics, than if it is a geranium or a carnation; they should have color and fragrance for their enjoyment, without loading the collection with the duties of a school for teaching the natural sciences.

Once let the idea that public conservatories and winter gardens are practicable be-

come fairly rooted in the public mind, and it will be easy to make and sustain them, and thus procure for all a greater pleasure than the trifling cost each tax-payer would have to give for his share.

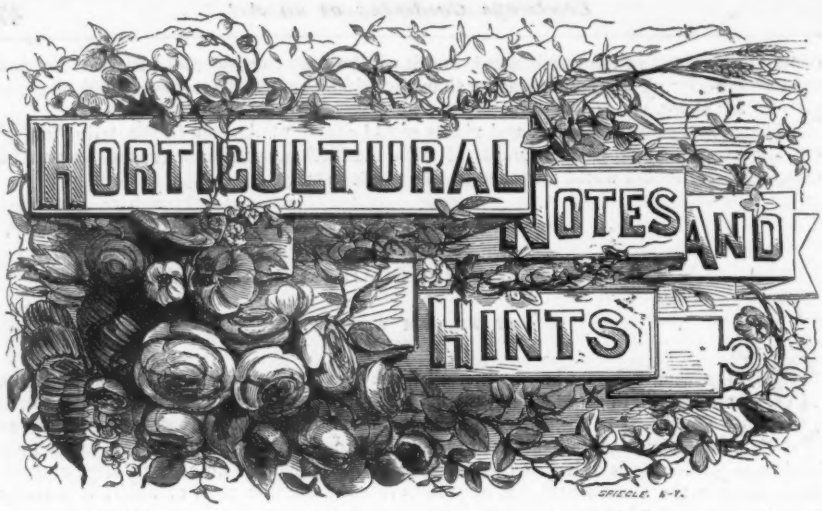
The sale of surplus flowers and plants would contribute largely to the reduction of current expenses, and as the number of such establishments increased, the number of competent gardeners would increase in like proportion.

Landscape Gardening as an Art.

BY WILLIAM WEBSTER.

THE season being at hand when all those who have new places to lay out in the country will think of giving the subject their most serious attention, a few words on the theory of landscape gardening may not be inappropriate, especially as much misconception seems to prevail as to the true nature of the art. That landscape gardening is only just beginning to be recognized as an art by a large class of landowners in the United States is only too evident; but this state of affairs is scarcely to be wondered at when we take into consideration the exceedingly utilitarian character of our people. Many there are, and even persons of considerable intelligence, who argue that if we would seek for the patrons of art, we must look elsewhere for them than in the counting-room or exchange. But this is poor logic, and with those who reason thus, we respectfully beg to differ; for the merchant can and often does encourage art, and not unfrequently, by a liberal disposition of his wealth, renders the artist most valuable assistance; and though but few of his class have much leisure for study, yet they can, by patronizing and surrounding themselves with the beautiful works of others, not only admire but soon learn to love them, and a taste for works of art once formed will seldom be forgotten. Every thing beautiful in art has its type in nature, and it is impossible to love the one without admiring the other. We are surrounded by the beautiful; the elements of beauty and of truth are met with on every hand. They pervade the universe, and it is from a careful study of this infinity of matter that genius derives inspiration. The painter views with delight the beautiful tints of the rainbow, and studies deeply the gorgeous coloring of a tropical sunset. The musician listens with rapture to the rich melody of birds as they warble forth their songs from amid their woodland haunts, and to the soft cadence of the summer wind as it murmurs through the tree-tops; in like manner does the garden artist gaze with pleasure on the magnificent and varied landscape as it expands before him, and as his soul drinks in the beauties of the scene his inspirations lead him to form new ideas, and then, as opportunity occurs, he carries them into execution. But it should not be inferred from this that the garden artist is a mere copyist, as many suppose. If this were indeed the true idea, of what use would gardens be to those who are continually surrounded with natural scenery? The art of landscape gardening is not a transcript of nature; it is something more than this. It is the essence of the scene which is to be caught and appropriated. And to those who think differently we would say, The sooner you disabuse your minds of the thought, the sooner will you come to understand the true principles of art, and the laws which govern art in landscape gardening. The province of the garden artist is to combine and arrange his materials, to refine and beautify his work, and to harmonize and give expression to the whole.

The materials he has to operate with come fresh from nature's mould. The strip of sod and mound of gravel, as they lie by the wayside, which by thousands are passed heedlessly by, and to them appearing as so much waste, are to the garden artist the same as pure gold and precious stones to the jeweler. He takes them up carefully, spreads them on a well-prepared surface, rolls and compacts the material, embellishes the scene with handsome trees and shrubs and beautiful flowering plants, tastefully arranged and harmoniously grouped, adding a little here and a little there, till finally, by his wondrous skill, the desert is made to blossom as the rose.



Practical Hints for the Garden and Grounds for February.

The Garden.—The cold beds, containing plants wintered over for early spring culture, will now need more care, in giving plenty of air and exposure, by removing the sashes, whenever the weather will admit. Light and abundance of air are now very essential, as well as good protection by covering cold nights, to prevent too great radiation.

A garden with a southern exposure, declining to the south, can be protected by a close wall or fence, run across its northern side, so that early or late crops can be much more successfully grown than in any other exposure. Such a fence or wall not only protects against high, cold northerly winds, but it also protects against frost, as it acts similar to a dam across a stream of water, holding back the cold air to its height when it pours over, not striking the ground till it reaches some distance from the fence, while the air under and back of this volume to the fence is warmer. To obtain the earliest and best results, then, from a garden, it should have protection of some kind, to break off prevailing cold winds; such protection, by keeping back cold air, radiates or reflects the heat, thus increasing the earliness and value of your garden.

In all garden operations, manure is the key to success, and its accumulation is always in order; now is the time to bring it into proper shape for use in the garden and grounds. A suitable supply will be needed, the latter part of this month or during the next, for the hot-bed; coarse horse stable manure should be accumulating and be turned over to encourage heating. If it is getting dry, water it with water drained from the manure heap, if to be had, or with pure water. A supply of leaves should be in readiness to add to the manure to prolong its heating quality.

Where early forcing is desired, hot-beds may be made during the month. Various ways of making them are practiced by different gardeners; but as good a way as any we have found to be, to make an excavation twelve to sixteen inches deep, and a foot larger on each side than the frame to be used; fill the excavation with your manure, mixing in considerable quantities of leaves; lay the manure, etc., in evenly and close, so that when it heats and settles it will settle even, leaving no hollows or hummocks; fill in and raise till you get a bed of manure two and a half to three feet thick, build up the outer edges square; place your frame centrally on the bed, and bank the manure and frame with ten to twelve inches of earth; cover the bed with about six inches of fine rich loam soil, and rake it smooth and even; now put on your glass sash and let the heat rise; cover it nights with mats or shutters; the heat will rise to 100° or more; after it begins to subside, say fall to about 80°, sow your seed. If sowed earlier or at first, the heat is apt to destroy the vitality of the seed, although some varieties will endure a greater degree of heat than others.

Preparation for open-air culture should be in order at all times, when the soil is bound in frost, and to this end bean-poles and pea-brush should now be prepared in readiness for spring use; cut your bean-poles to an even length of eight feet, trim, sharpen, and pack away convenient of access when wanted. White birches make the best pea-brush, and should be cut to a length, sharpened, and piled in an even pile, with a weight on to press them in good shape for setting in the rows.

A thaw will give opportunity to dig such root crops, etc., as are left or buried in the ground over winter — parsnips, salsify, etc. Horse-radish can now be dug for family use, be grated, bottled, and a little water added; it then makes an excellent sauce with boiled victuals, etc.

If you are fond of rhubarb pies, you can force one or two plants, and get a supply, by setting the roots in boxes in the green-house; or, you can put a headless barrel over the plant, out doors, and pack around it fermenting manure two or three feet thick, covering with several inches of soil and over the barrel place a glazed sash, which will soon start the plant and give a supply: such plants will, however, do but little, after thus forcing, till recovered the next season.

Success in gardening depends upon a supply of good seeds; for, however well other requisites may be provided and complied with, *good seeds* will only grow *good* vegetables and plants. Provide *now*, if not already supplied, a supply of good fresh seeds, true to name, and of the best quality. Test all seeds by sprouting in damp moss or soil, kept warm, or in a mild atmosphere.

Fruit Garden. — The success in raising fruit depends upon *care*, as well as other circumstances and essentials; without care, fine fruit can not be expected. Insect and other enemies are to be looked after and destroyed; pruning and other culture are to be given.

All neglected currants, gooseberries, and grape-vines, and dwarf fruit-trees, may be pruned during a mild spell before the sap has begun to flow or start.

Strawberry beds, grape-vines, and other small fruits, not covered before, may yet have a covering of evergreen boughs given, and avoid the damage that would result from changes of temperature, freezing, and thawing.

Prepare posts and other material for trellises that may be needed for grape-vines, etc., the coming spring.

Spread manure around the trees, currant and other bushes, and plants, in the fruit garden, that were neglected in the fall.

Orchard and Nursery. — Trees injured by ice or snow should be looked after often, and broken limbs removed, and as soon as the frost is out of the wood pare the wound smooth and clean with a sharp knife, and if a large one, cover it with grafting-wax, shellac varnish, or clay and cow manure mixed, and bound on with a cloth, etc.

Go over the orchard and nursery frequently, to see that trees are not girdled or barked by mice or rabbits. If any are found thus injured, attend to them at once, if to do nothing more than pile snow and tread it solid over the wound. If attended to while the wounds are fresh, little fear need be entertained that the trees can not be saved by some of the various ways of treatment to be resorted to in such cases, such as bridging the wound with scions set in the bark — one end being inserted below and the other above the wound; covering the wound with a thick varnish of shellac dissolved in alcohol; covering with the clay and cow manure mixture bound on; or even banking it over with soil well trod down, etc., all of which ways have proved successful when thoroughly performed and attended to in season.

All trees having loose outer bark, moss, etc., on their trunks and branches, would be benefited by scraping, and washing with a strong solution of soap and water, thus destroying insects and their hiding-places.

The eggs of the caterpillar will show, encircling small twigs, the varnish which covers them glistening, and showing quite plainly on a pleasant day; they should be removed and burned, thus saving the injury they would do if left to hatch.

The canker-worm moths will begin to come out as soon as the ground thaws, and seek to ascend the trees to deposit their eggs. The means of protection is "eternal vigilance." Many inventions and protectors are recommended, but none are entirely effectual. About as good as any is, to wind around the body several turns of straw rope, and place old rags or like in the crotches, and examine these frequently, seeking the moths and destroying them as discovered.

Lawn and Flower-Garden. — Trees in the lawn and pleasure-grounds should have care, to see that snow and ice do no injury, or mice bark them; and if so, be attended to at once, the same as recommended under "Orchard and Nursery."

Pruning and manuring may be done wherever needful, and but few trees but what will be benefited by manuring. Remove all injured or dead branches, and those which disfigure the shape.

Flowering and ornamental shrubs may be pruned and thinned, or cut back, as necessary. Some which blossom on new wood are best cut back, others pruned and thinned to tasty shape.

Dahlias and other tuberous roots stored in the cellar should be looked to, to see that they are not too damp or commencing to mould; if either, they had better be removed to a more secure place free from either objection.

Stakes, trellises, and other wood-work which go out doors, are improved by having a coat of paint. Rustic work, to be made enduring, should have a good coating of oil given.

To work the garden and grounds, suitable tools are needed, which should be kept in good repair. Cheap ones are the dearest in the end. If new ones are to be purchased, do it now, and get good steel light ones made for service; a few cents difference in cost is more than made up in ease in their use and extra durability. Paint and repair old ones, and withal have a tool-room, and see that every tool has a place, and, when not in use, in its place. Time, trouble, and vexation enough will be saved, in one or two seasons, to pay the expense of a cheap tool-house.

New Potatoes.

The excitement over the Early Rose has stimulated a host of other competitors, who are gradually making their appearance before the public. Here is one not yet described in any journal, with whose appearance we are very favorably impressed, and which has been shown at various meetings of the Farmers' and Fruit-Growers' Clubs, New-York:

The Early Prince.—A seedling of the Early York. Is white inside and out; its length, one quarter greater than breadth, slightly flattened, the ends nearly equal; came from the seed four or five years ago; grows large in a good soil, and as many as twenty of fair size in a hill; are perfectly sound and solid clear through, and have never shown any signs of rot; are the earliest potato we have yet heard of. Grown side by side with the Early Rose, it proved five days earlier than the Rose in ripening, and much larger. A decided and marked quality is its edibility as soon as large enough to cook, and of a peculiar rich flavor, which it retains through the winter. Another point in support of its superiority is its dryness when cooked; it is a fine baking as well as boiling potato; produces equally well with the Early Rose as grown side by side. The originator, E. W. Harrington, Geneva, New-York, claims that the Early Rose is superseded by this new variety. From several good opportunities for observation, we believe the claims for excellence are well supported by facts and the appearance of the specimens shown. The quality of the specimen we tested was certainly quite excellent.

Albert Brezee, of Hortonville, Vermont, has produced a seedling claimed to be better than the Early Rose, is quite as prolific, has cooked well. Originated from seed-ball of Early Rose, in 1862; is quite a week earlier; known as Brezee's "King of the Earlies;" smooth face. Not as large as Early Rose.

Brezee's Prolific.—Matures three weeks later than Early Rose. A seedling from Garnet Chili, in 1862; flesh, white, mealy; excellent quality; skin, dull white; tubers, very smooth, very flat, somewhat long; eyes, even with the surface; foliage, large; vines, bushy and somewhat spreading.

The Climax.—Described by D. S. Heffron, as follows:

"A seedling of Early Goodrich. Originated in 1864. It has a stout end stalk, of full medium height, and very large leaves; the tuber is quite smooth, in form of a cylinder swelled out at the centre; occasionally slightly flattened, and terminating rather abruptly; eyes, shallow, sharp, sometimes swelled out or projecting, and always strongly defined; skin, medium thickness, considerably netted or turrety, tough, white; flesh, entirely white, solid, brittle, heavy, and never hollow; it boils through quickly, with no hard core at centre; is very dry, mealy, of flowery whiteness, and of superior table quality. In productiveness it is fully equal if not superior to the Early Rose; bears few small tubers; matures nearly with the Early Rose; while its keeping qualities are as good as the Peachblow."

If there are any more to excel these, send on the descriptions. The owner asks the moderate price of $50 per potato for the above! Is there any now for sale at $100?

Black Cap Raspberries.

It is a popular misapprehension that black raspberries are not popular in the market, and not as profitable to cultivate as any other kind of small fruit. This, of course, is wrong; for facts prove it is very remunerative, and becoming every year a more and more popular subject with cultivators. As far as marketing is concerned, it already rules the Philadelphia market in preference to any red variety, while in New-York the sales are increasing every season. Warren Wight, of Waterloo, New-York, wrote us, a few weeks ago, his experience on this point, which we subjoin:

"To show whether it does pay to grow raspberries or not, I will give the yield from half an acre grown the past season. The plot contained originally 725 plants, of which number from thirty to sixty were killed out the first year by hilling up. The soil was composed of yellow sand, and a loamy heavy sand, with a clay bottom, on part of the plot. The variety, Seneca Black Cap. There were picked for market over forty bushels, which sold for over four dollars per bushel, and several bushels of which no account was made. What was picked for market were grown where it was sandy bottom. On the clay bottom there were from twenty to thirty bushels of berries which were left unpicked, from being so dried up as to be worthless. There was not enough rain, but once, after they had blossomed, to reach half way down to the roots. But, with the lack of moisture, had the plot been thoroughly cultivated, the loss of berries would have been small; but there was nothing done to them after they were hilled up in the spring. No one need expect to grow crops of berries without giving them proper care. In a favorable season, with proper cultivation, one hundred bushels of berries can be grown on the same plot where only a little over forty bushels were sold this year from it. If any one doubts that the above yield can be grown on half an acre, I would advise him to go and see various growers, and see the different yields; and, if he then have any doubts about such yields, let him come and see my plantation while in bearing, and I think he will have all doubts removed. But such yields are not required to make it pay; even fifty bushels per acre pays a great deal better than a crop of corn. Every one who has a rood of land should raise enough for his own use."

There are other varieties that do fully as well as the Seneca; the old Doolittle is earlier, and always good, succeeds anywhere, on poor ground or rich ground—always producing a good crop.

The Mammoth Cluster, though later, is admitted to be more productive still. The Davison's Thornless is the earliest of all, nevertheless the poorest grower.

If a novice, placed in a field of Black Cap raspberries, were to range the different sorts according to luxuriance of growth, the Seneca would be first, Mammoth Cluster next, Doolittle next, and Davison's Thornless last. In point of earliness the order would be—Davison's, Doolittle, Seneca, and Mammoth Cluster. In point of production—Mammoth Cluster and Seneca about alike, then Doolittle, and last, Davison's Thornless.

We think that, as a rule, the profit per acre on raspberries and all kinds of small fruits is either exaggerated or overestimated. If a grower, the first season, on fair land, can get $100 for his fruit crop of Black Cap raspberries, he ought to be satisfied. If, in the second year, he gets $300, he is well off; if, in subsequent years, he gets $500, he is doing splendidly.

An average of $300 per acre, clear income, year after year, is first-class receipts, no matter what the crop may be.

Lastly, one point of advice to beginners: New varieties are always high-priced; buy sparingly and test a year or two; put your main reliance on old standard sorts; the fact that they are old, and do not now create any excitement, does not detract from their value.

What Does it Mean?

A DOZEN gentlemen, this last fall, took the trouble to cross over from Vineland, New-Jersey, to Dover, Delaware, to see the merits of that section for growing fruit. After spending several days there, giving a good examination for a dozen miles around, they went back to their homes so delighted with their observations, as to determine to sell out at once and go thither. Now, be it understood, that Dover is forty miles further from New-York than Vineland, and that Vineland has an intelligent population of over 10,000, while Dover has but 3000 in her village. Land at Vineland is worth $30 upward, while good land at Dover brings $100 to $200; and yet, here are a dozen knowing men deliberately evacuating the most populous stronghold of South New-Jersey, and going over into the arms of friendly Delaware. Does not this look as if the charms of South Jersey were beginning to decay, and that it was worth more to get better land somewhere else at even higher prices?

The lands around Dover are all richer than Vineland, are beautifully situated, well improved, admirably adapted to fruit-growing, are a week or more earlier than Vineland; the facilities of reaching market are said to be better, and the general railway conveniences much more liberal.

An intelligent person told us lately (who had lived in Vineland from the commencement) that before a small place could be well cleared and prepared for cultivation, the cost would be nearly $100 per acre; and, *after that*, must have abundance of manure to produce well.

Vineland people must look well to their laurels if these ideas get out and begin to spread. However, we will give South Jersey a fair editorial hearing soon, and see whether it will pay people with small means to go there and to *stay* there. But at present, Delaware seems to convert all who go there. We have not yet met a man who has been able to conjure a single serious objection to that State in its capacities for fruit culture.

Grimes's Golden Pippin Apple.

AT several meetings of the Farmers' and Fruit-Growers' Clubs, New-York, in December, there were exhibited many excellent specimens of this apple. The fruit was admitted to be of beautiful flavor and should rank among the best. It was introduced into Eastern Ohio from West-Virginia, where it was found in an old natural orchard, the property of Thomas P. Grimes, and he gives the following interesting facts in a letter:

"The original tree is on my farm, bought by father sixty-seven years ago, and, from our best information, it is not less than eighty years old; my father sold fruit from it to the New-Orleans traders as long ago as 1804. From my earliest recollection, this tree has never been known to fail of producing a good crop, excepting in 1834, when a partial failure was occasioned by severe late frost in spring. Our belief is, that it has not failed to produce fruit each year for the past three quarters of a century.

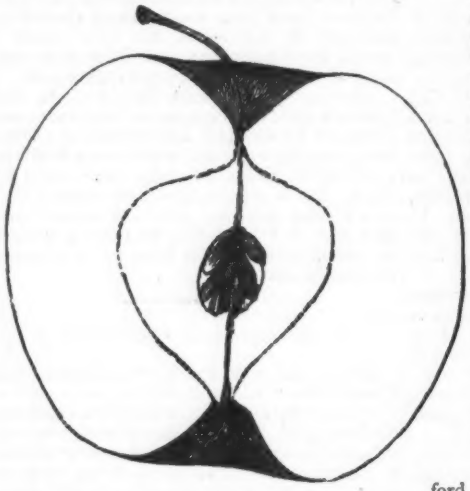
"The tree has not been pruned for the past forty years, and has had no sort of cultivation for the past twenty years, yet it is quite healthy, making fair growth, and bearing an average crop of fruit every season.

"From a grafted tree of this variety, planted eighteen years ago, I picked, last season, ten barrels of fine fruit. If I could only plant one variety of apple, I would choose this in preference to all others, for the following reasons: The fruit is beautiful, and unsurpassed in flavor; the tree is without a rival in hardiness, productiveness, longevity, and symmetry of growth; the fruit is fit for cooking in September; and for eating, from December till April, thus combining the good qualities of many in one."

This apple is a very old variety; yet, wherever planted, it has done so well that, at the present time, when the cry is raised on every side, Why are our apple-trees failing? it seems fit to call attention to this good old favorite as

one possessing many excellences for general planting.

We have alluded to this apple frequently before; yet, at the present time, when its merits



are being revived again before the public, it will do no harm to speak in its commendation.

All our leading pomologists, Warder, Downing, Elliott, Bateham, unite in the statement of its good quality, handsome appearance, thrifty growth, hardiness; and, as far as yet known, possessing among apples the great advantage of an adaptation to all parts of the country, similar to the Concord among grapes.

If this be so, it is deserving of wide and extended notice. We have seen so many instances of new fruits brought forward for public favor, whose successes are only local and dependent upon peculiar soils and protection, that pomologists are usually very cautious in their recommendations. But, if one variety of the apple can be grown from one end of the country to the other, in varying climates and soils, and still with uniform success, it is the duty of every fruit-grower to bid it welcome.

New Fruits.

Tyre Beauty Apple.—The *Rural New-Yorker* describes this as follows:

"This is a new seedling apple, which originated upon the farm of Jason Smith, Tyre, Seneca county, New-York. The tree, according to C. L. Smith, Esq., son of the originator, is a good grower, very productive; fruit of uniform size, almost universally fair, and especially a market apple. It has been forwarded to, and examined by, P. Barry, Esq., one of our best and most competent pomologists, who ranks it best in quality, and suggests the name by which we here describe it. The fruit is of medium size, roundish oblate, light pale-yellow ground, with broken lines and splashes of deep crimson, shaded and marbled intermediate. Surface covered with a mouldy bloom, that, before being rubbed, shows prominently fair gray dots; but when rubbed down, these gray dots mostly disappear. Stem very short, set in a broad, open, deep cavity. Calyx with segments almost erect, and a very deep, open, round, regular basin. Flesh white, crisp, tender, breaking, slightly acid, pleasant, but not rich or peculiarly sprightly. Core small, and broad pointed. Season, early September."

Lacon Grape.—This is a seedling, originated with D. B. Wier, Esq., an enthusiastic fruit-grower of Lacon, Illinois, and described by him in the *Prairie Farmer* as "a seedling from Concord seed planted in 1862, fruited the third year. A moderate grower, hardy and healthy; fruit black, entirely pulpless, with a refined sweet Concord flavor; bunch, as yet, small to medium; berry a shade smaller than Concord; ripened in 1866 with Hartford Prolific, in 1867 a week earlier—this year with it."

Mr. Wier states he has other seedlings—but as yet offers none of them for sale.

Janesville Grape.—This is a variety advertised in some of the Western journals; but, if it has ever been described, we have not met with the description.

Wyoming Red is a variety described by S. J. Parker, in *Country Gentleman*, as resembling the Walter—very early, prolific, and hardy.

Mount Lebanon is another new grape that we have not seen. It is claimed to have "originated from seed of Isabella, crossed with Spanish Amber, and grown by George Curtis, Columbia county, N. Y."

Senesqua is one of Dr. Underhill's new seedlings, of which he has several; but, as yet, we have seen no full description of them, or report of their promise of value. One is said to be a cross of Concord with Black Hamburg; another between the Concord and Black Prince; and another, a white grape, a hybrid between the Delaware and Chasselas Fontainebleau.

Messrs. Ellwanger & Barry, of Rochester, N. Y., have also, this year, exhibited a number of seedlings, one or more of which gave great promise of value. We have full descriptions and drawings, but the firm do not propose to name or disseminate until fully convinced of their value by trial in various localities.

New Grapes.—Mr. E. B. Smith, of Marion, S. C., gives, in the *Southern Cultivator*, a description of two new varieties, from the Scuppernong grape, as follows:

"These three grapes all belong to the same

species—the *Vitis Rotundifolia;* all have the same general characteristics as to shape and size of leaf, the growth and extension of vine, the time, form, and disposition of flowers.

"Presuming all your readers are acquainted with the Scuppernong grape personally, or by description, I proceed to state the most marked differences when compared with that grape. The Thomas grape bears about the same number of berries on each bunch as the Scuppernong. The Thomas grape varies in color, from a reddish purple, where much shaded, to a very deep black where exposed to the sun; the skin is thinner, pulp hardly so large or firm, (though this latter depends, to some extent, on locality,) and a decidedly different taste and smell. It ripens about the same time—in some localities a little earlier. A fine wine can be made from it. Last year I made a little from very ripe grapes, and that to which I added no sugar, I consider quite equal to the Catawba wine made at Cincinnati, while that to which I added one pound of sugar per gallon, several pronounced as good wine as they had tasted in the country, and almost every body makes wine here. The Thomas bears about as much as the Scuppernong—the grapes hardly as large. This grape was discovered about twenty-five years ago, by Mr. Drewry Thomas, in the woods, about four miles above Marion C. H., S. C., and from him has taken its name, and is different from the Black Scuppernong, a seedling from the latter.

"The Flowers grape is more oblong in shape than the above, and when ripe, of a deep black color. The skin is very thick, the pulp very tough, and when the grape is pulled from the bunch, a part of the pulp adheres to the stem. The taste, when fully ripe, is a very agreeable combination of acid and sweet—not near so sweet as either of the above varieties. The bunches of this grape are double and treble the size, having as many as twelve to fifteen berries on each, and is by far the most prolific bearer. From what I have seen and heard, we might safely calculate on fifteen hundred gallons of wine from an acre covered with bearing vines of this grape. I state this from actual measurement of both land and wine. The wine made from it, by the addition of one and a half pounds of sugar to the gallon, is hard to surpass. This grape does not ripen with either of the others in August or September, but begins to change color then, and ripens about the middle of October, after the others are all gone. It never falls from the vine, but remains till long after the first frosts. I have eaten them from the vine in December."

New Southern Apples.

J. Van Buren, of Clarkesville, Georgia, sends to the *Southern Cultivator* descriptions as follows of several new varieties of Southern seedling apples, and writing of the present season's fruit crop in Georgia, says:

"The present fruit crop in Upper Georgia is probably the largest and finest ever grown; the fruit is large, fair, and freer from the depredations of insects than I have ever seen it. The following are all late autumn and winter varieties:

"Ladies' Blush.—This is one of the largest, finest, and most beautiful apples we have ever raised. Its nativity we are unable to give with any certainty. It is reported to have been disseminated by itinerant grafters, who, from time to time, have perambulated the country, which is all that is known about it. The trees are enormously productive and very beautiful; fruit large to very large, nearly round in form and slightly conical; color, greenish yellow striped and marbled with dark red, with a large patch of russet above the stem; cavity, narrow and deep; stem, three fourths of an inch long, and slender; basin of a medium size; calyx, medium size, with the segments reflexed; flesh, white, and fine grained, juicy, and of a pleasant flavor; is an early winter fruit, and will rank as second quality.

"Great Unknown.—We received this excellent and beautiful apple, in 1858, from S. McDowell, Esq., of Macon county, North-Carolina, who informs us he did not know where it came from, or from whom he got it. The fruit is of large size, somewhat oblate in form, with a moderate cavity; stem, fleshy and very short; basin, small; calyx, small and closed; color, pale green, marbled with red in the sun; flesh, white, very tender and juicy; flavor, a very mild subacid. Ripens in September, and will keep until Christmas. *Quality best.* The tree is a fine grower and an enormous bearer.

"Curry's Red Winter.—This variety hails from Eastern North-Carolina. The size of the fruit is from medium to large, oblong in form, with a small cavity, and slender stem about three fourths of an inch long; basin, large; calyx, large and open; color, a yellow ground, nearly covered with pale red, and spotted with yellow spots and russet specks; flesh, white and solid, keeps well into January; of excellent aromatic subacid flavor; tree, vigorous and very productive; quality of the fruit, nearly *best.*

"Strawn's Seedling.—We are unable to tell from whom we received grafts of this variety. The size of the fruit is from medium to large; form, nearly globular; cavity, small; stem, short and fleshy; basin, very slight and ribbed; calyx, small and closed; color, greenish yellow striped with faint red; flesh, greenish, solid and juicy, of a sharp acid flavor, becoming quite mild in the winter. It is a fine keeper; tree, thrifty and productive; quality of the fruit, very good.

"Gaston's Seedling.—From South-Carolina; fruit, very large; form, conical; color, green, with gray russet specks, and a large patch of russet about the stem, which is one

inch in length, slender, and in a large open cavity; basin, contracted and much ribbed; calyx, small and closed; the entire fruit is considerably ribbed; flesh, white, juicy, and of good subacid flavor. Ripens middle of September, and keeps for some two months later. It will rank as second quality.

"WEBB'S WINTER.—Originated in Mississippi. It is of medium size, somewhat oblate in form; color, yellow ground, striped and shaded with red; flesh, yellowish, juicy, solid, and of good flavor. It is one of our best winter varieties, and remains sound until April. Tree, a moderate grower, and bears fair crops; about second quality.

"VAN BUREN.—A seedling of Habersham county, Georgia, and brought into notice and named by C. H. Sutton, Esq. This is another excellent winter variety, keeping sound until April. Size, medium, globular in shape, inclining to conic; color, yellow ground, nearly covered with dark red; flesh, yellow, juicy, and of a high spicy flavor. The tree is vigorous, has stout branches, which twist about in all directions; it bears enormous crops, which is sometimes inclined to the bitter rot. Quality, best.

"INGRAHAM'S WINTER.—Originated in Richmond county, North-Carolina. Size, medium, globular in form, tapering toward the eye; cavity, small; stem, short and fleshy; basin, small; calyx, closed; flesh, white, firm, and juicy; color, yellow ground, shaded with carmine on one side. Ripens about the first of October, and keeps well until January. Tree, a good erect grower, moderately productive. Quality of the fruit, very good."

SUCCESSFUL APPLE ORCHARD IN MARYLAND.—Wilson Marshall, in Cecil county, Maryland, just over the Pennsylvania line, has sixty-five trees on one acre and a half of land. A few years ago he sold, in one season, $265 worth of apples. His system of management he considers the true one. His orchard was planted on the south side of a slope, and the ground was worked until the trees were ten years old; great care having been exercised in planting the trees, keeping them straight, and well pruned. The ground was well limed and manured, and good crops of grain, potatoes, etc., were obtained whilst the trees were small. He prunes about the first of June, and trims off all suckers and shoots in August. This summer pruning is an advantage, in the fact that the cuts grow over with new bark and are prevented from decaying. To prevent the growing of shoots, the trees should be scored around the butts. Since the trees have become large, the manuring and liming has not been abandoned, but the ground is treated to a liberal coat yearly, and occasionally plowed. By this course of treatment Mr. Marshall's orchard has never entirely failed to bear since the trees were two years planted, whilst orchards in the same neighborhood, planted about the same time, never bore rightly, and are now almost gone. Mr. Marshall has been selling his early varieties—Townsends and Calebs—in Oxford, this last season, at $2 per bushel.

HORTICULTURAL NOTES FROM THE WEST.

THE members of the Alton (Illinois) Horticultural Society are working horticulturists, and we have been greatly entertained by a perusal of their proceedings. Their discussions always elicit much valuable information, because furnished from actual experience. We transcribe a few notes of most interest.

FIRES IN PEACH ORCHARDS.

S. B. Johnson—I believe we can protect our peaches from frost by building fires in the orchard when there is danger of heavy frost. I kept fire in my orchard for five nights, and during two or three of the cold sleety days; built the fires on the windward side every two or three rods. I have the largest crop of any one in this section, and think I can attribute my success to the fires; build the fires of old logs or any thing that will make a heavy smoke.

Mr. Stewart—I think sawdust to be the best to raise a smoke; have no doubt of the efficacy of smoke to keep off frost.

VISIT TO KNOX FRUIT FARM.

Mr. W. E. Smith, having just returned from a visit to the celebrated Knox Fruit Farm, near Pittsburg, was called upon for a description of the place, method of culture, etc., and gave a very interesting account of what he saw. The place consists of 160 acres; about 80 acres in vines, 30 in strawberries, 10 in raspberries, etc. The most remarkable thing about the place is, that nearly all the work is done by hand power; there is no part of his ground where he runs a cultivator, with the exception of perhaps twenty acres. Mr. Smith, like all others who have visited the grounds of Mr. Knox, has returned with *Jucunda* on the brain, with *seven hundred* horse-power pressure, saw the berries 5½ inches round; 20 to 24 fill a quart measure when ripe; sell in Pittsburg for fifty cents per quart, beside Wilson's at fifteen cents. In New-York they bring one dollar per quart. Knox thinks "700" is the proper name in more respects than one, as he thinks it will produce, with him, 700 bushels to the acre.

Mr. Knox thinks a heavy coat of manure deforms the berries; manures annually on the surface. Prefers to renew his beds once in four years; mulches light with straw.

WEIGHT OF MUST.

It is the generally received opinion that must from grapes grown near the ground is the

heaviest. The Warsaw Horticultural Society, experimenting upon the weight of must, found that that made from grapes near the top of the trellis was much heavier than that made from those gathered lower or near the ground.

CODLING MOTH AND REMEDIES.

This great pest of the apple orchard is seldom seen in the moth state, and "yet by its fruits" it is known to every apple-grower in the land. Early in the season these moths drop their eggs on the blossom end of the apple. The eggs soon hatch, and the young worm passes to the core of the apple. In a few weeks it attains its growth, and gnawing through the side of the apple, the insect makes its escape after the fruit has fallen to the ground, and creeps into chinks of the bark of trees, or other sheltered places, and spins for itself a cocoon.

The earliest apple-worms, it is said, change to chrysalids immediately after their cocoons are made, and soon thereafter turn to moths, come out, and lay eggs for a second generation of worms. But most of the insects are not changed to moths till the following summer.

Remedies.—Carefully scrape off the loose bark of the apple-trees in the early spring months, thus destroying many chrysalids. Let the hogs and sheep have the run of the orchard. In small inclosures, however, it should be noted that sheep and hogs are sometimes tempted to try the bark of the apple-tree.

When it is inconvenient to let the swine and sheep run in the orchard, let all down fruit be picked up and fed to the hogs daily. Use Dr. Trimble's trap, made by twisting a hay rope and fastening it around the trunk of the tree; under this rope large numbers will be found. Let such birds as are known to aid in the warfare against this insect be encouraged to make their home in your orchard. Of such are believed to be the wren, bluebird, king-bird, sparrow, and common woodpecker. Do all this, and urge your neighbors to join you in your efforts, and ever remember that in these days eternal vigilance is the price of fruit, as well as of liberty.

HALE'S EARLY PEACH CONDEMNED.

S. B. Johnson—Perfectly worthless with me. I am satisfied from experience and testimony that it is worthless in this section.

Hilliard—A complete failure with us.

Rev. Charles Peabody, of St. Louis—Hale's Early is a thrifty grower; healthy tree and foliage; free from disease; bud round like a shot, in contradistinction to other varieties, which is calculated to resist frost; sets its fruit beautifully, and, so far as my observation goes, it is the first to be stung by the curculio, so much so that it is the first to succumb to rot. The first season it is comparatively free from rot, but grows worse each season; whether the rot is superinduced by the sting of the curculio or not, I am unable to tell. If mine rot as badly in future as in the past, I shall dig them up. When the peach begins to rot, the leaves near by will become diseased, also the twig. I submitted a twig to Mr. Hilgard, of St. Louis, for microscopic examination, and he pronounced the fungus different from that found on other peaches.

E. A. Riehl—My experience differs from Mr. Peabody's. My Hale's Early rotted worse the first year than since. I attribute the rot entirely to the sting of the curculio. I have always found that the crescent preceded the rot.

Dr. Hull—I am of opinion that the fungus is latent in certain varieties, and that when stung it spreads rapidly both to peach and limb. I think, in the great majority of cases, our rot can be attributed to the sting of insects. I think, if the curculio was kept from Hale's Early, it would not rot more than other varieties. I don't recommend any one to plant it; but with my experience I would plant it myself.

The following motion was proposed and carried:

Resolved, That "Hale's Early" is not suited to this section, and should not be planted either for family or market.

EARLY CRAWFORD.

Mr. Peabody—The most delicious peach we have; markets well, and eats well. They will not stand late spring frosts, is the only objection.

THE CURCULIO.

Dr. *Hull* waxed eloquent over the various appetites of the curculio, and the unmitigated laziness of fruit-growers.

"The statements I have made each year are proving true, 'that as we increase the product the insects increase.' I have traveled considerably this season, and find the peaches generally destroyed, also the apple, pear, and plum. The curculio is sweeping every thing before him; unless we wake up they will consume our substance. Are we to sit idly by and let them breed as lice breed on children, and not raise a finger to prevent them? Nine tenths of the horticulturists have not energy enough to fight them; we must all wake up or they will consume us. If we all will go to work, we can keep them under; but for one man to do it, surrounded by neighbors who will not fight them, is of no use; they will eat him up also. When the thermometer is at 70°, they will fly in on him, and it is impossible to catch them. I once caught sixty and painted them, and carried them to a neighbor's. I caught many of them again on my own place, showing that they will fly. We must look this matter square in the face; we can't dodge it if we would. It has resolved itself down to the simple point of fight or no fruit. I am getting discouraged. Perseverance and energy will save us; nothing else will. I remember the time when, in this neighborhood,

a man would have been kicked out of society if seen with his boots blacked. I hope to see the time when he will meet the same treatment should he harbor curculios.

LARGE FRUIT FARMS.

The farm occupied by Mr. Hyde, near Alton, and owned by L. B. Sidway, of Chicago, consists of 400 acres; 100 acres of which are in fruit, planted as follows: 2000 apple-trees, 3000 pear, (2300 of which are standard,) 1500 peach-trees, and ground prepared for 1000 more next spring; 500 cherry, 3000 grapes, one acre of Lawton blackberries; 600 gooseberries, 600 currants. The place is intended exclusively for fruit, no other farm products being raised except for home consumption.

Mr. Starr, of Monticello, has one of the largest fruit farms in this section; planted as follows: 2800 apple-trees, mostly winter apples; 2000 peach-trees; about 4000 pear; 7000 grape-vines, of which 800 are Catawba, 175 Delaware, the rest of various kinds, including Ives's and Norton's Virginia.

ROOT-PRUNING AS A CURE FOR BLIGHT IN DWARF PEARS.

Dr. Hull—I have frequently made statements that root-pruning was a sure preventive of blight in the pear, and I would now move that this Society appoint a committee, whose duty it shall be to ascertain the facts, either for or against the practice, and report the same.

The President appointed a committee.

D. E. Brown—In my judgment the true theory is this: root-pruning forces the roots to go down deep where there is plenty of moisture. Give a pear-tree deep soil, and the roots will run down as far as the top will up and never blight. The pear-trees on the American Bottom will illustrate this—they have a deep soil and never blight. Mr. Barry has a peach orchard near where we now are; trees planted from one and a half to two feet deep, never blight. From my observation I am fully convinced that the secret of successful pear culture lies in deep rooting.

Honors Due to Virginia.

The Richmond Whig claims high agricultural honors for her sons, in the invention of new implements and modes of the culture of ground.

To Mr. Ryland Rhodes, of Albemarle, is given the credit of the first hill-side plow.

To Mr. Humberstone Skipwith, of Mecklenburg, the credit of the open graduated furrow.

To Mr. Philip Tabb, of Gloucester, the mode of breaking up low grounds in beds of a limited and specified width.

To Commodore Thomas ap Catesby Jones, of Fairfax, the introduction, as early as 1822, of the substratum or subsoil plow.

To Mr. John Murphy, of Westmoreland, the introduction of a threshing machine.

To Mr. Cyrus H. McCormick, of Rockbridge, the invention of the reaper.

Mr. Fielding Lewis, of Charles City, was the pioneer in the use of lime on a large scale as an improver of the soil.

Mr. Edmund Ruffin, of Prince George, father of Edmund, Junior, was the father also, as all Virginia knows, of the renovation of the eastern portion of that State, by teaching the use of marl and green sand.

Mr. Israel Janney, of Loudon, father of the Hon. John Janney, was the first to introduce gypsum, or plaster of Paris.

The first ton of guano brought to Virginia was by Commodore Jones; though guano was introduced into the United States by Commodore Porter, Senior.

Mr. Israel Janney was the first to sow the seed of the red clover in Northern Virginia; and Mr. John G. Mosby, of Curles, in Henrico, (father-in-law of General P. T. Moore,) the first to make trial of it in the tide-water region.

President Madison, while a Member of Congress, sent from Philadelphia to his farm, in Orange county, a small parcel of timothy seed.

Mr. Abraham B. Venable, while a Senator in Congress, likewise sent from Philadelphia to his farm, in Prince Edward, a small parcel of red top or herd's grass.

Mr. John Harness, of Hardy county, was the first to practice the cutting down of Indian corn with its stalk entire, to be shocked in the field, and thus used as the food of cattle.

Forcing-Houses.

As a practical and profitable aid to market-gardening, large forcing-houses are coming into good and appreciative use. Their cost may seem an objection; but we have yet to learn where capital can be invested with greater certainty of as good results.

We have lately heard many announce their intention of spending from $1000 to $2000, in erecting large hot-houses or forcing-houses, for the sole purpose of raising early vegetables and plants, and for late gardening also. Their facts and figures justify them; and it so happens that we have on hand the result of a trial of this nature at Vineland, New-Jersey. The owner relates his experience as follows:

"My house is 50 by 33 feet, with small boiler-shed on north end. It cost, when completed, about $1200.

"Took first crop (lettuce) from the beds the first of last March.

"The highest price obtained was 8 cents per head, the lowest 3 cents. Sold 4680 heads, which netted $211.65, or a little more than 4½ cents per head. The next crop—consisting of lettuce, cabbage, cucumber, and melon plants—was taken off during the month of April and

first part of May. Sold 3120 heads of lettuce, which netted $95.38; 25,000 cabbage plants, at $4 per thousand, $100; cucumber and melon plants, $25.

"After these crops were removed, I put in a crop of cucumbers, which, rightly managed, would have sold for at least $100 during the month of June; but through ignorance and inexperience, received only $5 for them. On account of not having house completed in season, I missed raising a crop of lettuce in the fall, to sell during the month of December. This crop, I suppose, will generally sell for about 4 cents per head in Philadelphia, where all of my lettuce was sold. The furnace consumed eight tons of coal, at $8 per ton, $64. Seed cost about $6. Interest on $1200 invested in building, at 12 per cent, $144. This was all the expense I was at, for I did nearly all the work myself, on stormy days and evenings, when I would have done nothing else.

"The account may be stated briefly thus:

Dr.

March 1.	Sold 4680 heads of lettuce,		$211 65
April	" 3120 " "		93 38
	" 25,000 cabbage plants,		100 00
	" Cucumber and melon plants,		25 00
June	" Early cucumbers,		5 00
	Total sales,		$437 03

Cr.

Eight tons coal,	$64 00
Seed,	6 00
Interest on $1200, at 12 per cent,	144 00
Total,	$214 00
Deducted from	437 03
Leaves as profit,	$223 03

"I had no practical knowledge of this business before engaging in it; but I took *Gardening for Profit* as my guide, followed it as faithfully as I could, and used the best common sense I possessed. Of course, with one year's experience, I expect to do better this winter than I did last; and I confidently believe that I shall each season clear $500 from the house."

The economical use of hot-beds, too, is a great point. We remember an instance of a trucker, near Milford, Delaware, who has some hot-beds under glass, in which he started his tomatoes last season. In two of these, 100 by 5 feet each, on the "spent" manure, he sowed lettuce in October last. From this he has shipped to the New-York market, this winter, 25 barrels, averaging 140 heads per barrel. Selling for 10 cents per head, it realized him the neat little sum of $350.

This plan of *extra seasonable* gardening may be carried on in infinite ways, and it is fair to presume, from the nature of the means and methods of production, there will never be any serious changes in price, and will always remain a permanently profitable occupation.

A FARMER in Derbyshire, England, lately took a prize at a fair on three cabbages that averaged 72½ pounds.

PROTECTION FROM COLD WINDS.

MR. EDITOR: Mr. Elliott more than once has urged the importance of close planting, and the use of evergreens to secure protection from cold winds. The advantage of evergreen screens, on the windward borders of orchards, I believe every one who has known their use will admit; but I fear few planters will introduce an occasional evergreen in place of a fruit-tree throughout the orchard, as he advises, until the pecuniary advantage of such a course is more fully established.

But as to planting at half the usual distances—ten by ten feet for standard pears, and ten by fifteen feet for standard apples—in defiance of the catalogues of the nurserymen and the standard authorities generally, how many will advise it either as a general rule or as one to apply in special cases? That Mr. Elliott carries this theory of his into practice, I have had ocular evidence; but his location at East-Rockport, on the shore of Lake Erie, is one peculiarly exposed to strong winds. Yet, owing to the disappearance of our forests, how few sections there are in our country not similarly exposed.

I incline to favor this idea, for the injurious effect of winds on the trees of a full-grown, closely-planted orchard must be inconsiderable as compared with that on scattering trees; and this favorable condition may be reached in a few years by close planting. As the trees crowd each other, some may be removed from time to time, while the fruit, such as may already have borne, will have paid for the extra expense and care many times over. A neighbor of mine, one of the most extensive planters of apples in this valley of Lake Champlain, pursued a similar plan with his orchards. His only motive, I think, was to obtain a greater yield of fruit while his trees were young. He had expressed himself pleased with the result. P.

CHARLOTTE, VT., Dec. 4, 1868.

W. C. FLAGG, of Alton, Illinois, who has extensive orchards on his 1200 acre farm, and is well known as one of the best cultivators of the West, grubs up his old or superannuated trees, and burns the brush in the holes. According to the report of the Horticultural Society of that place, he has several hundred young apple-trees planted in such holes, which, for vigor of growth and health of foliage, are equal to any grown on new land. The success is attributed both to burning the earth and to the ashes.

PROFITABLE FRUIT-GROWING.—Nathan Cope, living about two miles north of East Fairfield, in Columbiana county, Ohio, has sold one thousand barrels of apples from his orchard this year at $3 per barrel, and has about one thousand barrels still on hand. His orchard consists of about eight acres.

Close Planting of Fruit-Trees.

Mr. Editor: I have for many years been convinced that a large amount of land has been wasted in the occupancy of orchards where trees stand from thirty to forty-five feet distant from each other. Some varieties of apple-trees require more room than others. The large Romanite, on good soil, is a rapid grower, and each tree will cover a very considerable space; but in ordinary soils this variety, and all others, will bear well, and be thrifty when planted from fifteen by fifteen feet to eighteen by eighteen feet. You, Mr. Editor, may smile at the idea; but in good earnest I say that *fruit-trees seem to enjoy each other's society.* We have around us here, in several localities, walnut, hickory, persimmon, and plum groves; and I have noticed that in those groves or clumps there are every year many trees with heavy crops of fruit on them.

In the walnut groves, the ground is covered with a long, thin, tender, blue grass. In the others, the leaves keep the grass from growing, and the soil is usually loose and of a mossy feel to the tread. So would it be in orchards, if the trees stood closely enough together to entirely shade the earth beneath and between them.

I have seventy fruit-trees, standing in a very small area, around my residence. A good deal of the front yard is taken up with cedar, pine, ash, horse-chestnut, and maple trees. My plum and pear trees bear profusely; and I expect the peach, cherry, quince, persimmon, crab, and apple to yield good crops when old enough.

In addition to the trees, I find an abundance of room for grape-vines, currant and gooseberry bushes, also raspberry, blackberry, and strawberry patches, and flower-beds.

The idea that trees must have a great deal of room has deterred a great many dwellers in town and city suburbs from planting them; thus depriving themselves and families from the possession and enjoyment of some of life's most precious blessings.

Your column is doing a good work; and, if you can induce householders to plant where they ought to plant, live as they ought to live, and make their homes as beautiful and as happy as they so easily can be made, you will be, to no small extent, the benefactor of the race.

John R. Woods.

Winchester, Ill., Dec. 23, 1868.

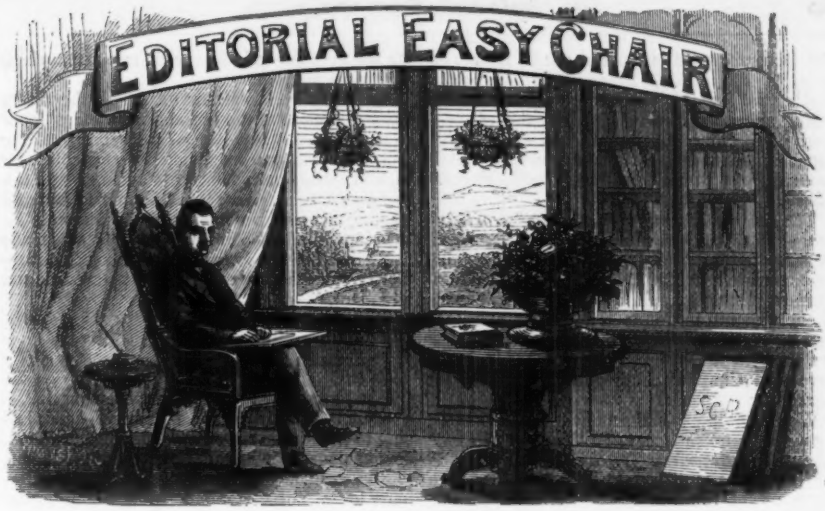
The Way to Set Out Apple-Trees.

Daniel Harrington, Tionesta, Forest county, Pennsylvania, writes:

"I would make a few remarks regarding the decay and barrenness of apple-trees. In the spring of 1840, I set out an orchard of apple-trees in the common way, by digging a small hole just large enough to hold the roots of the young tree, then putting in the tree and filling up the hole around it. The orchard was set out on creek bottom, sandy loam, and cultivated sometimes in corn and oats, with intervals of seeding down to clover and timothy. About half are now dead; of the balance, some bear every year and some every other year. I am satisfied that the reason of trees decaying and not bearing, is found in the fault of the first setting out; for instance, when young trees are removed from the nursery, they are taken out of a soil highly cultivated and manured; they are then set out in the usual way by putting the roots down in the subsoil, a soil destitute of all vegetable matter. Is there any wonder that the tree does not thrive, or that one half of them die? About six years ago a neighbor of mine set out an orchard of grafted trees from the Rochester Nursery, State of New-York, as follows: He put them on high ground, and dug holes three feet in diameter and two feet deep. He filled the holes with stones broken with a sledge, giving a layer one foot or eight inches deep. He then covered the stones with the soil taken from the holes, mixed with compost or well-rotted barn-yard manure, and set in the trees on this surface, and filled up around the tree with the best sod that he could get, putting the subsoil as far from the tree as possible. Those trees are the cleanest, thriftiest trees, and grow the fastest of any in the neighborhood, although they have had no attention in the way of washes or manures since they were set out. The reason, is, that after a heavy rain, or the melting of the snow in the spring, the water drains off through the stones, leaving the roots free from cold water; the roots, also, do not go down into the subsoil, which is destitute of all vegetable matter. I have myself set out some twenty-five apple-trees in this way, which, although too young to bear, are growing very nicely. It is a great deal of extra labor to set out trees in this manner, but I believe it will pay in the end, because the trees grow so much faster, and are not so liable to be attacked by insects."

Cultivating Orchards.—There is an excellent example of the benefit resulting from cultivating apple orchards, in the case of W. Lombard, of Augusta, Maine, who has some one hundred and seventy trees, mostly old, well cultivated, the soil stirred about as far as the limbs extend, and the ground mulched with refuse straw, potato tops, corn-stalks, etc. One Tallman Sweet Tree yielded six barrels, which, at $5 per barrel, brought $30. The whole orchard, in one year, yielded $613 in fruit sold; and the present, not a bearing year, $200.

The Commissioner of Agriculture says, that if our soil were cultivated one inch deeper, $150,000,000 would be added to the wealth of the country.



Editorial Gossip about Agricultural Journals

THE new year witnesses a remarkable change in nearly all our agricultural exchanges; and, it must be admitted, uniformly for the better. Agricultural journals are now admitted to be, in their scope and circulation, the most useful, practical, and influential of all issues of the newspaper press; and it is gratifying to witness the efforts that their proprietors are making for public appreciation, and, in return, how freely the public are bestowing their patronage.

Thirty years ago, there were but few agricultural journals in the country, and not one had over five thousand circulation. Now, they are abundant on every hand, succeeding well, and increasing from year to year.

Many new journals have been launched upon the sea of literary life during the past few months, the most prominent of which is *Hearth and Home*, of New-York. The appearance of this journal, so highly indorsed, and bearing the names of editors high in public estimation, was a guarantee that from the outset it would be successful; and it is gratifying to learn that it meets the expectation of its friends. It is, perhaps, more popular for its family reading than on account of its agricultural or horticultural character; and yet, in these last points, it bears the same relative standing to agricultural journals that the *Independent* does among the religious—prominent specially because of its contributors. It lacks that indefinable sweetness and juiciness which readers observe in many other papers distinguished for their practical character, and is likely to become too heavy unless relieved sooner or later with short, pithy articles and paragraphs, interspersed here and there among the other heavier matter. Nowadays long articles are not read, and short paragraphs are an absolute necessity. Nevertheless, *Hearth and Home* is a desirable acquisition to both agricultural and family literature.

The Agriculturist appears with a neat and tasteful cover, which increases its ornamental appearance.

The Country Gentleman, the best of all agricultural weeklies in America, still continues excellent, and is increasing in circulation and popularity.

The Ohio Farmer puts on a new dress, hoping to be more attractive; but really more homely than ever. We always liked the eight-page form it possessed a year ago; if it possessed it now, it would be far more acceptable. The editor gets off many a good thing which "hits" every time; but he is behind the age on typographical improvement.

The Prairie Farmer did just the right thing when it emancipated itself from the thralldom of its former size and put itself into a new dress. It has increased also in literary influence and efficiency with the change, and is one of the best of our exchanges.

Brother Moore has surprised the world with his tremendous sixteen-page issue of *The Rural New-Yorker*. We are frank in saying that for variety as well as abundance of reading for the family, and most reasonable price, it is unequaled in the world.

The Wisconsin Farmer turns a somersault and comes out again as the *Western Farmer*, with new and handsome "fixings," making a wonderful improvement. May it progress rapidly!

The Western Rural jogs along as good as ever. We always liked it—a good, sound, practical paper.

The Gardener's Monthly astonished the world

last December with a colored cut of a "mushroom." If the *G. M.* never gets above "toadstools," we fear it will not soar very high. All joking aside, we like the spirit of the editorial work of the journal. Its editor is a thoroughly capable man, and thousands of genuine friends are ready to thank him for valuable suggestions.

The old, old *Hovey's Magazine of Horticulture*—the first this country ever possessed—has, in surrendering itself into other hands, spoiled an honorable record. That a journal of so honorable a prestige should descend into the arms of one who will toss it as in a blanket, merely to puff the merits of his pet, and lift it into renown, is a thing to be regretted. Better that it should have died a natural death than to be used for mercenary purposes.

We do not like to make unfavorable criticisms, for we have no malice to gratify; yet when we take up the *American Journal of Horticulture*, for January, and expect to be entertained with some useful information about strawberries, varieties suitable for planting, etc., and find a page and a half devoted to its own exclusive premium, casting all others into the shade; when we see agricultural journals throughout the country induced to illustrate this strawberry as a great horticultural acquisition when it will not do them or their readers any good—for it can not be easily or generally procured; to see journals humbugged into a free advertisement of the premiums of a rival; when such a journal claims a circulation of twenty thousand, which it has not got save one month in the year; to see it claim a circulation larger than all others combined, when we learn from reliable authority that its *paying-list* is not as large as that of THE HORTICULTURIST; when it coaxes advertising under false pretenses; torments a man to death with circulars and letters of solicitation; puffs any thing without regard to its merits or consistency; puffs itself; fills up its pages with advertisements of its own books and premiums; endeavors unworthily to create the impression that it is the best trade advertising medium of the horticultural community; when it takes advertisements at any rate; continues them to fill up its pages, etc., it becomes a nuisance deserving exposure by some respectable journal.

We bought the first year's numbers of it and read them with much hope. Our feelings were favorable, and we considered it an advance in horticultural literature; but *now*, "good Lord, deliver us!"

To this day, not a man knows who is the real or responsible editor of the *American Journal of Horticulture*. It is a fair question to ask, whether in these days, when all men should be honest, is it right to support a journal of that character which is ashamed to confess its editor?

The world is wide enough and free enough for all. We have no objection to a dozen or a hundred of the same character; but if they ever are started, let them remember two things: 1st. Be respectable. 2d. Never claim a merit which they have not got.

As to THE HORTICULTURIST, let the future show the result of the present proprietors' labor to make it *what it ought to be*, deserving all the sympathy and patronage its character entitles it to, and through the honorable agencies and use of "*work, brains, and greenbacks*," to increase its influence and become of greater success.

Meanwhile, the improvements already made show that the tide is carrying it along into popularity; and hearty congratulations are free and abundant.

CULTURE OF THE SOIL FOR WOMEN.

WE have often repeated the assertion that, if a woman has only a chance, it would be a pleasure to cultivate fruits or flowers for a livelihood, sooner than to be held in irredeemable bondage to the needle. Still women are like sheep—hard to get out of the old paths, and to follow new leaders. Now and then instances come to our notice where women have made a forcible emancipation of themselves from city life, and hurried into the country with some rural occupation suitable for their tastes. Vineland, New-Jersey, contains many such cases. A maiden lady of forty years went there, who had been a school-teacher, in Massachusetts, for sixteen years. She got weary, as she said, of being a slave for others; and thinking a farmer's life more to her heart, came to Vineland and bought ten acres. She has been there three years, and has five acres in good bearing condition. All the work, except the clearing of the land, has been done by herself and a boy thirteen years old; and from being weak she has become strong and healthy.

There is another lady, same age, formerly educated as a physician; but as her health gave way, she bought ten acres there, and, with the assistance of a boy only, she has been able to cultivate five acres nicely. Her health also returned to her.

There are said to be quite a good many widows there, who take all the care of large gardens, and make them literally abound in delicious fruits and beautiful flowers. One lady was observed one week-day painting her house, and the next Sunday filling the pulpit, in the absence of the regular minister, acceptably.

Last summer, in our editorial travels up and down the Erie railroad, we saw a corn-field, plowed, harrowed, planted, cultivated, and gathered, the whole work, from beginning to end, done by three sisters, and most excellent it was too.

We have known of many a happy husking-bee in which the ladies were the busiest helpers.

Yet in the garden, in the culture of fruits and vegetables, how suitable a field for woman's hands and woman's labor! The work is light, pleasant, a relief to in-door cares, and healthful;

puts new bloom on the cheek, and gives her a place to call her own—her delight and pride.

How well women can manage large farms remains yet to be seen. We have known a few instances of success of this nature; but the limit to woman's activity can be bounded between the hedge-rows of a few acres. Better do a little well, than attempt to grasp too much and fail.

Little Brown Hands.

They drive home the cows from the pasture,
Up through the long shady lane,
Where the quail whistles loud in the wheat-fields,
That are yellow with ripening grain.
They find, in the thick waving grasses,
Where the scarlet-lipped strawberry grows;
They gather the earliest snow-drops,
And the first crimson buds of the rose.

They toss the new hay in the meadow;
They gather the elder-bloom white;
They find where the dusky grapes purple
In the soft-tinted October light.
They know where the apples hang ripest,
And are sweeter than Italy wines;
They know where the fruit hangs the thickest
On the long, thorny blackberry vines.

They gather the delicate sea-weeds,
And build tiny castles of sand;
They pick up the beautiful sea-shells—
Fairy barks that have drifted to land.
They wave from the tall, rocking tree-tops,
Where the oriole's hammock-nest swings,
And at night-time are folded in slumber
By a song that a fond mother sings.

Those who toil bravely are strongest;
The humble and poor become great;
And from those brown-handed children
Shall grow mighty rulers of state.
The pen of the author and statesman—
The noble and wise of the land—
The sword and the chisel and palette,
Shall be held in the little brown hand.

Chinese Gardening.

The Chinese have always been famous for their curious systems of gardening, and especially their propensity to dwarf every species of tree or plant into an almost diminutive space.

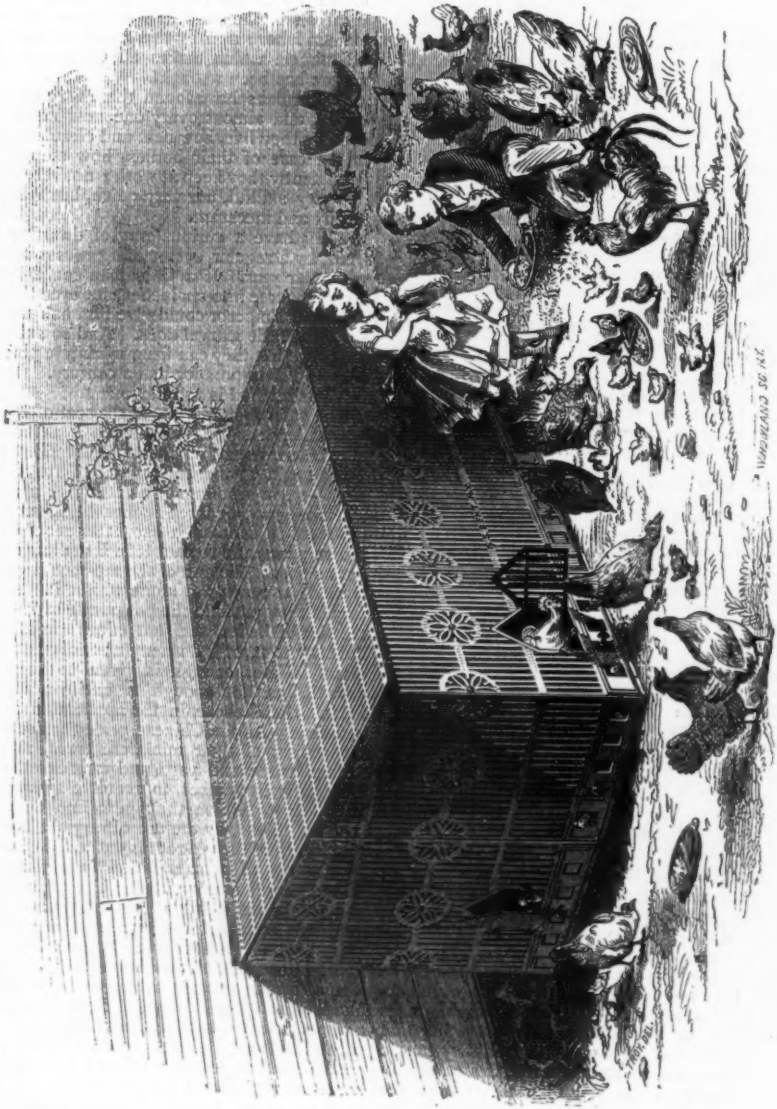
For patient industry they have no equals. Any thing which needs great labor and but little skill, they can do better than all the world besides; if it be the digging of innumerable miles of canals, or the building of great walls that stretch half-way across a continent, they can do it. There are no more careful, thrifty, economical tillers of the soil than they; even the steepest hill-sides are redeemed from waste by narrow terraces; and their broader fields are kept as tidily as gardens. They spare no labor nor economy in enriching the soil, and work hour after hour to irrigate it, carrying the water, often for considerable distances, in buckets swung across their shoulders. They use very little agricultural machinery, and all their instruments are of the rudest sort. What they depend on is the ceaseless drudgery of patient manual labor; and by this alone the agricultural miracle which makes all China one great garden has been wrought.

Californians have found them very useful laborers, and almost every one now knows how cheaply they live, how neat and cleanly they are in the care of their bodies, how steadily and persistently they keep at work; not very strong, nor very skillful, nor very quick, but quiet and steady and incessant.

They have a curious way of dwarfing their trees, by a regular systematic process followed year after year. If a Chinaman could dwarf a sixty-foot tree into six inches, not even the office of Grand Emperor could give him half the pleasure that little marvel does. And so successful are they, that they can keep miniature pines and oaks in flower-pots for half a century.

Their method is as follows:

They aim first and last at the seat of vigorous growth, endeavoring to weaken it as much as may be consistent with the preservation of life. They begin at the beginning. Take a young plant—say a seedling or a cutting of a cedar—when only two or three inches high, cut off its tap-roots as soon as it has other roots enough to live upon, and replant it in a shallow earthen pot or pan. The end of the tap-root is generally made to rest on a stone within it. Alluvial clay is then put into the pot, much of it in bits the size of beans, and just enough in kind and quantity to furnish a scanty nourishment to the plant. Water enough is given to keep it in growth, but not enough to excite a vigorous habit. So, likewise, in the application of light and heat. As the Chinese pride themselves on the shapes of their miniature trees, they use strings, wires, and pegs, and various other mechanical contrivances, to promote symmetry of habit, or to fashion their pets into odd fancy figures. Thus, by the use of very shallow pots, the growth of the tap-root is out of the question; by the use of poor soil and little water, any strong growth is prevented. Then, too, the top and side roots, being within easy reach of the gardener, are shortened by his pruning-knife or seared with his hot iron. So the little tree, finding itself headed on every side, gives up the idea of strong growth, asking only for life, and just life enough to look well. Accordingly, each new set of leaves becomes more and more stunted, and buds and root-sets are diminished in proportion, and at length a balance is established between every part of the tree, making it a dwarf in all respects. In some kinds of trees this end is reached in three or four years; in others ten or fifteen years are necessary. Such is fancy horticulture among the Celestials.



Poultry-Houses.

THE question is frequently asked, What is the best kind of poultry-house? and the answer given will be as different as the individuals who give them are different.

One man is satisfied that poultry thrive well enough with bestowing the very smallest amount of attention on the hen-house. Frequently they assign for this purpose any chance corner in a dilapidated building or exposed situation; such a one as we would naturally call, from its space and structure, entirely unfit as a lodging-place for fowls.

These poultry fanciers have occasion, sooner or later, to grumble at the slender revenue from their fowls; and if, in footing up debit and credit, they find their eggs have cost one, two, or three cents apiece, how natural to blame the unfortunate hens, who are innocent and unknowing sufferers?

The old-fashioned barn-yard fowls, who pick up their living wherever they can get it—also hardened and stinted during the severe experience of their chickenhood—can, of course, bear more severe usage than those breeds of more careful descent; but whether fowls are of low degree or high pedigree, good generous treatment never fails to produce amply pleasing results. By paying close attention to the needs of poultry, it will be found that all sorts of poultry are much the better for comfortable roosts in roomy, well-roofed houses.

Perhaps nothing has a more unfavorable effect than a leaky roof and a penetrating draught.

It is absolutely necessary that a poultry-house should be so situated as to command an abundance of fresh air. If the house is of stone or brick, ventilation can be secured by raising one or more tiles or slates high enough to save the fowls from the direct current of colder air.

If the house be of wood, as is the general rule, and the roof be also of wood or of felt, the same object can be gained by making slight crevices between the boards, or by holes bored through the door. The door itself may be a loose fit; by this means sufficient precaution is taken against the danger of cold currents of air rushing across the heads of the fowls.

In a house made of boards overlapping one another, the roof may be perfectly tight, and a plentiful supply of fresh air may be obtained from the effect of the sun's rays on the side boarding and doors.

Hence it is that most experienced poultry fanciers prefer wooden houses to all others, and certainly in warm weather they merit the preference awarded to them; while in winter, any too open part can be stopped up with straw or hay. Ventilation is a very simple and easy matter where small movable houses are used, and where they are not confined to one fixed place, as is often the case when many are congregated close together.

Earthen floors are the best; but to remove from the fowls all temptation to scrape them up, they should be beaten hard, well watered on the surface, and then smoothed with a trowel.

Every morning the houses should be thoroughly cleaned, and the floor sprinkled with ashes (wood ashes if possible) twice a week. Dry sand also should be used freely. The inside of the houses, especially the roosts, should be washed with lime every six months, perhaps oftener, and the outer door kept open all day, except in stormy weather.

See that the houses are not overcrowded; give such food as your stock seems to thrive on best, changing it occasionally; never withholding sound grain as a portion of the daily fare, and, as a general rule, let no meal be very soft, especially in the case of chickens.

If these simple precautions are taken, success will be deserved, and will be assuredly met with.

Iron Chicken-Coops.

WE have been shown some excellent designs for iron chicken-coops, by Samuel S. Bent, of this city, which possess many novel and useful features.

Fig. 1 represents a square chicken-coop built in sections. The front, as in the specimen shown, is composed of four iron sections jointed together, the sides of two sections, and the top eight. The convenience of this arrangement consists in the fact that the sections being already cast, any number of sections can be taken, and any size of poultry-house can be made at short notice—long or short, of any height or width. The back is usually of wood.

Figs. 2 and 3 represent the front and rear sections of a smaller portable chicken-coop; these, too, are already cast and ready to be used at any time. The ends only are needed, for the tops are made of wood, as also the floors. The width of these iron frames is two feet; the height two feet six inches. By the use of longer or shorter boards, the poultry-house may be made of any length; and if a double coop is desired, a wood partition may be inserted in the middle, dividing the frame into two distinct houses, each with a door. The advantages claimed for iron coops are, the prevention of losses experienced in raising chickens, by rats, cats, weasels, etc. It will be observed that there are little doors at the bottom, which are to be closed at night and opened in the morning by slides. Single coops are two feet six inches long; and double coops five feet in length. We are indebted to Mr. Bent for the accompanying plans, and will present, in a succeeding number, other excellent illustrations.

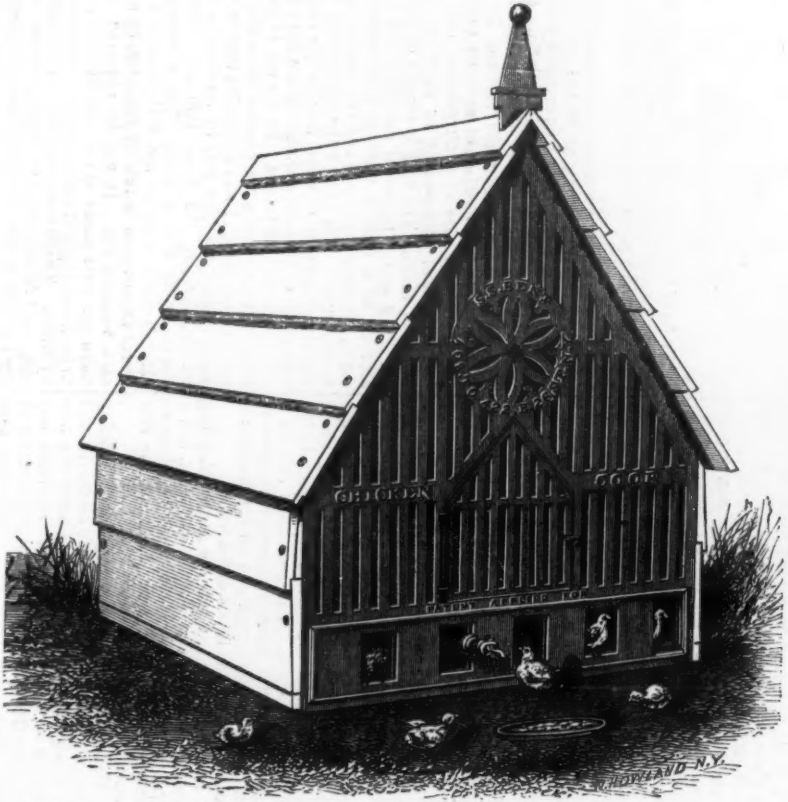


Fig. 2. Front View of Iron Chicken Coop.

Fig. 3. Rear View.